FINAL
NO FURTHER ACTION REMEDIAL ACTION PLAN

FOR

INVESTIGATION AREA IA-A1 CLEAN PARCELS

at

MARE ISLAND NAVAL SHIPYARD,

VALLEJO, CALIFORNIA

June 29, 2000

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ABBREVIATIONS AND ACRONYMS

ACM	Asbestos containing material
AST	Aboveground storage tank
bgs	below ground surface
BRAC	Base Realignment and Closure
BTEX	Benzene, toluene, ethylbenzene, xylene
CERCLA	Comprehensive Environmental Responsibility, Compensation and Liability Act
CFR	Code of Federal Regulations
DFG	Department of Fish and Game
DoD	Department of Defense
DOM	Domestic pumping station
DTSC	Department of Toxic Substances Control
EBS	Environmental Baseline Survey
EFA WEST	Engineering Field Activity West
EPA	Environmental Protection Agency
IA	Investigation Area
IAS	Initial assessment study
IR	Installation Restoration
LBP	Lead-based paint
mg/kg	Milligram per kilogram
MINS	Mare Island Naval Shipyard
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NFA	No-further action
PA/SI	Preliminary Assessment/Site Investigation
PCB	Polychlorinated biphenyl
ppm	Parts per million
PRC	PRC Environmental Management, Inc.
PRG	Preliminary Remediation Goal
PWC	Public Works Center
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act

RFA	RCRA Facility Assessment
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
Sq. ft.	square feet
SSPORTS	Supervisor of Shipbuilding Portsmouth Environmental Detachment
SWMU	Solid Waste Management Unit
TSCA	Toxic Substances Control Act
TPH	Total petroleum hydrocarbons
TTEMI	Tetra Tech EM Inc.
U&A	Uribe & Associates
UST	Underground storage tank
UXO	Unexploded Ordnance

EXECUTIVE SUMMARY

This Remedial Action Plan (RAP) was prepared for a portion of Mare Island Naval Shipyard (MINS) known as IA-A1 Clean Parcels. MINS is located along the northern portion of the San Francisco Bay, at the mouth of the Napa River (Figure 1). IA-A1 Clean Parcels is located along the northern portion of MINS (Figure 2) and consists of approximately 97 acres of land that is considered by the United States (U.S.) Department of the Navy (Navy) and Regulatory Agencies (California Department of Toxic Substances Control (DTSC), U.S. Environmental Protection Agency (EPA), and California Regional Water Quality Control Board (RWQCB)) as requiring no further action pursuant to Chapter 6.8 of the California Health and Safety Code, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

The boundaries of IA-A1 Clean Parcels were selected to separate that portion of the north end of MINS that is considered to be safe for unrestricted use and development, from adjacent areas that require further investigation and cleanup. The IA-A1 Clean Parcels area has a reasonable buffer zone between it and all adjacent areas of known contamination.

The buildings and land within IA-A1 Clean Parcels have seen a variety of uses. However, use and storage of hazardous substances has not been as intense or widespread as in other parts of MINS. Site Investigations, review of historical records and photographs, and interviews with present and former employees, were used to identify potential areas of hazardous substance releases. Additional investigation, and/or sampling and analysis occurred at all areas of potential hazardous substances use, storage, or release within IA-A1 Clean Parcels. These potential environmental concerns were evaluated or investigated under several Navy environmental programs implemented at MINS. These programs included: Installation Restoration (IR) program, Unexploded Ordnance (UXO) program, Polychlorinated Biphenyl (PCB) program, Radiological Program, Underground Storage Tank (UST) program, and additional sites that area identified as Group II/III sites in this RAP.

Within IA-A1 Clean Parcels there were few significant environmental concerns, and these concerns have been either 1) investigated and determined to not represent a significant risk to human health or the environment, or 2) resolved outside of the NCP process to a level such that the area no longer represents a significant risk to human health or the environment.

The IR program was initial designation for sites with potential for significant and widespread contamination. There are no current or former IR sites located within IA-A1 Clean Parcels, however, two IR sites are located on parcels adjacent to IA-A1 Clean Parcels. There are no sites within IA-A1 Clean Parcels that were used extensively for explosive ordnance manufacture or storage. The two small arms firing ranges previously located within IA-A1 Clean Parcels were investigated for UXO, UXO-scrap, and other metals. No UXO, UXO-scrap, or elevated concentrations of other metals were discovered during these investigations. IR sites and potential UXO sites are no longer a concern within IA-A1 Clean Parcels.

Twenty-four areas within IA-A1 Clean Parcels were sampled and analyzed for potential PCB contamination. PCB contamination was detected at three locations within IA-A1 Clean Parcels. PCB abatement occurred at two of the locations, and at the third location, abatement occurred in areas that were accessible, and the portion of the spill that was inaccessible for removal (beneath an active transformer) was encapsulated. Although encapsulated PCBs must be properly managed during building demolition, the PCBs present do not constitute a release to the environment, and no longer represent a significant risk to human health or the environment at IA-A1 Clean Parcels.

Numerous areas within IA-A1 Clean Parcels were screened for radiological concerns. In all areas where radioactivity was detected in excess of background levels, abatement occurred. There are no areas within IA-A1 Clean Parcels that contain radioactivity in excess of background levels and therefore radiological concerns no longer represent a significant risk to human health or the environment within IA-A1 Clean Parcels.

There were four USTs suspected of being located within IA-A1 Clean Parcels. Two of the tanks (fuel only) were located and removed. The two UST sites that were removed complied with the RWQCB requirements for closure of low-risk sites and no longer represent a significant risk to human health or the environment. The third and fourth suspect UST were generated as different references to the same tank. This tank was not located despite three different attempts by the Navy to locate the tank. During the third attempt, low levels of fuel contamination were detected. A sample from the area was analyzed for potential hazardous substances and contaminants in addition to potential fuel constituents. The site was determined to be a fuel-only release and therefore is being managed by the RWQCB.

There were several other sites or areas of potential environmental concern that were also evaluated and/or investigated within IA-A1 Clean Parcels. These areas included the domestic waste pumping stations (DOMs), asbestos-containing materials (ACM), lead-based paint (LBP), spent sand blast grit, pesticides, and ambient concentrations of metals in fill material. Based on the conclusions of studies and investigations, none of these potential environmental concerns currently represents a significant risk to human health or the environment that requires remediation or mitigation pursuant to CERCLA. While potential hazards still exist within buildings (e.g. ACM, encapsulated PCBs, LBP, etc.), these potential environmental concerns do not currently constitute a release to the environment as defined by Chapter 6.8 of the Health and Safety Code. However, these environmental concerns must be properly addressed in accordance with applicable regulations during any future maintenance or demolition of these buildings. Because all of the known environmental concerns within IA-A1 Clean parcels have been mitigated, or have been assessed to not represent a significant risk to human health or the environment, no further action is required for the area encompassed by IA-A1 Clean Parcels.

1.0 INTRODUCTION

This section discusses the purpose of this remedial action plan (RAP), identifies the site, and describes the scope of information presented in this RAP.

1.1 PURPOSE

This RAP presents a summary of site environmental data regarding the nature and extent of potential contamination, as well as the human health and environmental impacts from potential contamination at a portion of the former Mare Island Naval Shipyard (MINS). The location of MINS is shown in Figure 1. The scope of this RAP is limited to several of the clean parcels within Investigation Area A1. This property which is identified within this RAP as being transferable is shown in Figure 2, and throughout this document, this area will be collectively referred to as the IA-A1 Clean Parcels. Environmental data for the A1 Clean parcels are used to identify the remedial action proposed to address, to the extent necessary, the contamination at the site. As detailed in this RAP, DTSC believes that No further action is required to address environmental concerns within IA-A1 Clean Parcels at MINS pursuant to Chapter 6.8 of the Health and Safety Code. This RAP provides the public with an opportunity to be involved with the remedial action decision-making process and provides the rationale for the selected remedial action based on environmental sampling and analysis data, cleanup and abatement actions conducted to date, and an evaluation of potential ecological and human health risks represented by residual levels of

contamination at the site.

This RAP documents that no additional remedial actions at the IA-A1 Clean Parcels of MINS are necessary because the environmental investigations and studies discovered only minor releases of hazardous chemicals and for those areas where significant spills or releases have occurred, cleanup was implemented to a level that is protective of public health and the environment for unrestricted future uses of these parcels. The RAP further documents the rationale of the DTSC for determining that areas within the IA-A1 Clean Parcels where residual contamination exists are, in fact, insignificant. It also documents that areas cleaned up under programs other than the remediation process in Chapter 6.8 of the Health and Safety Code, contain no residuals that are a threat to public health and the environment. Therefore, the proposed no further action for the IA-A1 Clean Parcels is protective of human health and the environment and a final record of decision documenting these conditions is necessary.

1.2 SITE IDENTIFICATION

MINS is located approximately 25 miles northeast of San Francisco in Solano County, California. As shown in Figure 1, the MINS complex encompasses approximately 5,460 acres on a peninsula bounded on the south by Carquinez Strait, on the west by San Pablo Bay, on the east by Mare Island Strait (Napa River), and on the north by the Napa marshlands and Highway 37. The City of Vallejo is located directly across Mare Island Strait. Investigation Area A1 is located along the northern portion of MINS and is shown in Figure 2. Figure 2 also shows the clean parcels within Investigation area A1 which are the subject of this RAP. The legal description for IA-A1 Clean Parcels (the area covered in this RAP) is presented in Appendix A. MINS was selected for base closure in 1993 under the Base Realignment and Closure Act.

Potential releases of contaminants at the IA-A1 Clean Parcels of MINS have resulted primarily from storing and handling products containing hazardous substances, leaks and spills of hazardous substances from storage containers, disposal of waste materials, use of potentially contaminated materials as backfill, and maintaining and repairing equipment. Past activities at IA-A1 Clean Parcels at MINS have been evaluated to: (1) determine the location and extent of any contamination, (2) evaluate the human and ecological risks associated with contaminants, (3) consider and evaluate options to address contamination that poses a threat to public health or the environment, and (4) develop DTSC's rationale for determining that known residual contamination does not represent a significant risk to human health

and the environment.

1.3 SCOPE OF INFORMATION IN RAP

This RAP summarizes information contained in the administrative record for the proposed no further action decision at the IA-A1 Clean Parcels of MINS. The administrative record index is included as Appendix B of this RAP.

2.0 RAP SUMMARY

This section summarizes the information presented in Sections 3.0 through 10.0 of the RAP.

2.1 CONSISTENCY OF RAP WITH STATE AND FEDERAL REQUIREMENTS

The investigation and cleanup activities at the IA-A1 Clean Parcels of MINS were conducted by the U.S. Department of the Navy (Navy), Engineering Field Activity West, Naval Facilities Engineering Command. The California Department of Toxic Substances Control (DTSC), Regional Water Quality Control Board (RWQCB), and U.S. Environmental Protection Agency (EPA) monitored and oversaw these activities.

This RAP is consistent with the following state and federal requirements:

1. State of California Hazardous Substances Cleanup Bond Act of 1984

2. State of California Hazardous Substances Account Act (Chapter 6.8 of the California Health and Safety Code)

3. Federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980) CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA)

4. National Oil and Hazardous Substances Pollution Contingency Plan (NCP) at 40 CFR Part 300, and as cited in Chapter 6.8 of the California Health and Safety Code

5. Federal Resource Conservation and Recovery Act (RCRA), and as authorized by Chapter 6.5 of the California Health and Safety Code

6. Interim Final Guidance on Preparing Superfund Decision Documents (EPA, 1989)

7. Remedial Action Development Approval Process (DTSC, 1987)

8. Other state and federal requirements that are appropriate

2.2 HISTORY OF SITE AND CONTAMINATION SUMMARY

MINS is located approximately 25 miles northeast of San Francisco, near the City of Vallejo, in Solano County, California (Figure 1). On January 4, 1853, the island was purchased by the Navy for pacific coast operations. The original footprint of the island at this time was 956 acres; however, through land reclamation projects and grants; the property has grown to its present size of approximately 5460 acres. Since 1853, the island has been used extensively by the Navy for the building and repair of numerous ships and submarines. An estimated 513 craft were built at the facility throughout its history, with the height of operations being during the latter stages of World War II when 41,053 people were employed at MINS. The IA-A1 Clean Parcels at MINS are located near the northern portion of the island, all of which is reclaimed land that has been developed by the placement of fill soil and dredged sediments. Potential releases of contaminants at IA-A1 Clean Parcels of MINS have resulted primarily from storing and handling products containing hazardous substances, maintaining and repairing equipment, and the use of contaminated materials as fill. Based on the types and locations of past activities, potential sources of contamination have been assessed to determine if contamination has been or could have been released, and if such releases continue to pose a risk to human health or the environment. Based on this assessment, no further action is proposed at the IA-A1 Clean Parcels of MINS.

In general, each site of a potential release has one or more of the following conditions that preclude the need for further remedial action:

- Hazardous materials or substances were not stored at the location or were only stored in small quantities;
- Hazardous materials or substances were not released or were released in only small amounts;
- Hazardous materials or substances that may have been released were contained within the building and no pathway exists for such spills to be released to soil or groundwater beneath the building;

- Hazardous materials or substances releases that have previously occurred have been the subject of cleanup outside the NCP process, which nonetheless removed contaminants to levels that do not pose a significant risk to human health or the environment; and

- Residual concentrations of hazardous materials or substances that may have been released do not pose any significant risk to human health or the environment.

2.3 SELECTED REMEDIAL ALTERNATIVE

Based on the evaluation of analytical data and other information, DTSC has determined that no further remedial action is necessary to ensure protection of human health and the environment at the IA-A1 Clean Parcels of MINS.

2.4 PRELIMINARY ALLOCATION OF FINANCIAL RESPONSIBILITY

The subject site of this no further action RAP (IA-A1 Clean Parcels of MINS) is owned by the U.S. Department of the Navy. The Navy is 100 percent responsible for the investigation and cleanup activities solely related to IA-A1 Clean Parcels at MINS past and present practices.

2.5 COMMUNITY PARTICIPATION

As part of finalizing this no further action RAP, a fact sheet will be prepared and mailed to community members, a 30-day public comment period will be provided, and a public meeting will be held on May 25th , 2000.

3.0 SUMMARY OF SITE CHARACTERISTICS

Section 3.1 discusses the site history, including the types of chemicals handled and past releases of chemicals. Section 3.2 presents a physical description of the facility.

3.1 SITE HISTORY

MINS is located approximately 25 miles northeast of San Francisco, near the City of Vallejo, in Solano County, California (Figure 1). The earliest uses of Mare Island were by Native American Indians. This assessment was based on the findings of a study conducted in 1986 by the Archaeological Resource Service. Prehistoric areas of interest were characterized by the discovery of pieces of obsidian and chert, a pestle and mano, and shellfish remains.

The earliest known recorded history of Mare Island was on August 5, 1775 when the island was named "Isla Plana" (flat island) by Don Perez de Ayala while engaged in an exploratory expedition on his Spanish Majesty's ship the San Carlos. The island was later renamed "Isla de la Yegua" (Island of the Mare) by General Mariano Guadalupe Vallejo in the mid-1830s, after a white mare belonging to his wife fell from a raft while being ferried across the Carquinez Straits and swam ashore. On January 4, 1853, the island was purchased by the Navy for pacific coast operations. The original footprint of the island at this time was 956 acres; however, through land reclamation projects and grants, the property has grown to its present size of approximately 5460 acres. The IA-A1 Clean Parcels at MINS are located near the northern portion of the Island all of which is reclaimed land that has been developed by the placement of fill soil and dredged sediments.

Since 1853, the island has been used extensively by the Navy for the building and repair of numerous ships and submarines. An estimated 513 craft were built at the facility throughout its history, with the height of operations being during the latter stages of World War II when 41,053 people were employed at MINS. Originally, the shipyard was used for the construction of wooden craft with the paddle-wheel steamer Saginaw being completed in 1858. Most recently, MINS completed the construction of the nuclear-powered submarine USS Guitarro (SSN665) in 1972. MINS also constructed the first radio installation on the Pacific coast; converted the first Navy ship to burn fuel oil; built the first aircraft landing deck in the Navy on the armored cruiser Pennsylvania; and built the first guided missile submarine, the USS Grayback.

3.2 PHYSICAL DESCRIPTION

MINS is located approximately 25 miles northeast of San Francisco in Solano County, California. As shown in Figure 1, the MINS complex encompasses approximately 5,460 acres on a peninsula bounded on the south by Carquinez Strait, on the west by San Pablo Bay, and on the east by Mare Island Strait (Napa River). The City of Vallejo is located directly across Mare Island Strait. Investigation Area A1 is located along the northern portion of MINS and is shown in Figure 2. Figure 2 also shows the clean parcels within Investigation area A1 that are the subject of this RAP.

3.2.1 Site Description/Physiography

MINS is predominantly flat, ranging from near sea level in elevation at the north end to the southern hills rising to 275 feet above sea level. Floodplain areas of the island are subject to inundation due to heavy rainfall and resulting stream and coastal overflow. The original footprint of the island was 956 acres; however, through land reclamation projects and grants, the property has grown to its present size of approximately 5460 acres. Mare Island's 5,460 acres consist of the following categories and corresponding acreage:

Land Categories	Acres
Marshlands	920
Tidelands	2400
Grasslands and Shrublands	420
Woodlands	100
Outdoor Recreation	50
Dredge Ponds	510
Urban (Industrial/Housing)	1060

The climate is generally moderate and dry in the summers and cool and wet in the winters. The San Pablo Bay and Pacific Ocean to the west, and Carquinez strait to the south have a moderating influence on the temperature and climate of the area. In the summer the temperature ranges from 55°F to 80°F and in the winter the temperature ranges from 38°F to 53°F.

Average rainfall at MINS is 17.41 inches per year. Measurable precipitation falls 50 to 60 days per year at MINS. Approximately 95 percent of the total rainfall occurs between October and April.
The IA-A1 Clean Parcels are located within the northern portion of MINS. All of this area is reclaimed

land that has been formed by placement of dredged and other fill materials. A map of the IA-A1 Clean Parcels which require No further action and which are the subject of this RAP is presented in Figure 2, and a legal description of these IA-A1 Clean Parcels is included as Appendix A.

3.2.2 Geology

The San Francisco Bay region is located within the Coast Range geological province and is characterized by a series of northwest-trending faults that function as part of the San Andreas fault system. MINS lies along the eastern boundary of the Coast Range adjacent to the Great Valley geologic formation. Five geological faults capable of generating earthquakes lie within a 50-mile radius of MINS. These faults are: the San Andreas, Hayward, Calaveras-Franklin, Green Valley-Concord, and the Rogers Creek Faults. MINS is separated from Vallejo by the Mare Island Strait (confluence of the Napa River) and by the Franklin Fault , a southwest dipping fault believed to strike through the Mare Island Strait. Basement rocks are commonly concealed by thick sequences of bay mud. All of the IA-A1 Clean Parcels are overlying imported and dredged fill materials which have been placed over the top of a thick sequence of bay mud. Rocks that are exposed at and near MINS consist of micaceous shale and arkosic sandstones, part of the Cretaceous Panoche Formation. Underlying the Great Valley Sequence is the Cretaceous Franciscan Complex.

Above the basement rocks is an unconsolidated natural deposit of silty clay known as Older Bay Mud. At Mare Island, this silty clay unit consists of poorly graded sand, silty sand, and gravelly sands. The upper two feet of the Older Bay Mud consists primarily of orange, tan, to dark brown colored silts and sands. On top of the Older Bay Mud is the Younger Bay Mud. This silty clay unit consists of dark greenish gray, olive gray, and brown silty clay, with occasional organic material (primarily rootlets). The top of this unit is generally encountered from 1.5 to 9.5 feet bgs.

On top of the Younger Bay Mud unit is a layer of unconsolidated heterogeneous fill materials that primarily consists of dredged fill, clay, silt, sand, gravel, and debris in varying proportions. Most of this heterogeneous unconsolidated material appears to represent imported fill placed atop dredge spoils and native silty clay. Gravelly material is frequently encountered in the upper few feet and likely represents base materials placed prior to development for shipbuilding activities. This surface fill material ranges from 0 to 8 feet in thickness, with little or no surface fill material along the northwest portion of the IA-A1 Clean Parcels adjacent to the tidal wetlands area.

3.2.3 Hydrogeology

The area near IA-A1 Clean Parcels at MINS receives an average of about 17.4 inches of rainfall annually, most of which falls between October and April. Resulting runoff flows either directly into the natural drainage or is directed to the stormwater system which discharges to Mare Island Strait and San Pablo Bay.

Groundwater is present in geologic units underlying the IA-A1 Clean Parcels at MINS, primarily within pore spaces of the unconsolidated bay mud which underlies the placed fill material which covers the area. The top of the shallow water table is generally near or just above the top of the silty clay unit. Shallow groundwater in the area of the IA-A1 Clean Parcels has a general gradient towards the north and northeast towards the Mare Island Strait. The shallow groundwater aquifer is generally observed to be at depths ranging from 1.5 to 3.5 feet below ground surface (bgs).

4.0 IDENTIFICATION OF AREAS OF POTENTIAL CONCERN

This section presents a summary evaluation that serves as the basis for identifying areas of potential concern at IA-A1 Clean Parcels of MINS. MINS was designated by the Department of Defense for base realignment and closure (BRAC) in 1993. The goal of the BRAC program is to transfer the property and facilities of closing installations to the community as expeditiously as possible, and with minimal impact on the local economy.

To facilitate the BRAC process, the Department of Defense developed the Environmental Baseline Survey (EBS) process to assess the environmental concerns associated with BRAC installations, and for use as a management tool for meeting the obligations of CERCLA. The EBS process was designed to use a systematic approach in order to identify all potential environmental concerns at MINS. This EBS included; 1) visual site inspections, 2) review of past and ongoing naval and environmental records and programs at MINS, 3) interviews with past and present Mare Island employees, and 4) a review of historical aerial photographs and available environmental and related documents. The review of historical information identified the history, usage, and potential for hazardous material usage or storage at each building within each subparcel at MINS.

Based on the EBS findings and other environmental documents, numerous areas, buildings, equipment and systems at MINS were identified as being of potential environmental concern. An overall summary table which lists the potential environmental concerns identified in the EBS (and other documents and investigations) for the IA-A1 Clean Parcels at MINS is presented as Table 4-1. This table identifies all buildings, areas and structures within IA-A1 Clean Parcels and identifies associated environmental concerns.

Primary sources which identified potential environmental concerns at MINS included: *Initial Assessment Study* (IAS) (1983), *RCRA Facility Assessment* (RFA) A.T Kearney, Inc. (1987), *Basewide Environmental Baseline Survey* (EBS) (1994), and *Preliminary Assessment / Site Inspection Summary Reports* for Radiological and Non-Radiological Sites (1995). The RFA identified potential environmental concern sites as Solid Waste Management Units (SWMU) and gave these concerns a numerical sequence for tracking purposes.

The environmental concerns identified in the EBS (and other environmental documents) were grouped

into categories and environmental programs were created in order to address these potential concerns for subsequent investigation and remediation when appropriate. There are five major environmental programs previously and/or currently implemented at MINS to address major groups of potential environmental concerns. These major programs include:

- Installation Restoration (IR) Program
- Unexploded Ordinance (UXO) Program
- Polychlorinated Biphenyl (PCB) Program
- Radiological Program
- Underground Storage Tank (UST) Program

Other environmental sites or potential concerns that are not addressed by one of the above programs will be discussed in this document under "Other potential sites and environmental concerns" which include PA/SI sites, Group II/III sites, and environmental concerns associated with ambient concentrations of contaminants.

A brief description of each of these programs along with a summary of the identified potential environmental concern is presented below. Section 5.0 then presents a discussion of health and safety risks represented by site conditions, and section 6.0 discusses the effects of residual contamination on probable present and future uses of the site.

4.1 INSTALLATION RESTORATION (IR) PROGRAM

The installation restoration (IR) program was started with the completion of the Initial Assessment Study (IAS) in March of 1983. The IAS identified 14 potentially contaminated sites that warranted further evaluation or investigation. Subsequent evaluations identified additional sites to be evaluated as part of the IR program, and as of October 1994, 24 sites (Group I) were undergoing Phase II remedial investigation as part of the IR program. None of the 24 IR sites are located within IA-A1 Clean Parcels, but two IR sites (IR08 and IR17) are located on adjacent parcels. The location of these IR sites is shown on Figure 2, and a summary of the sites is included in Table 4-1. However, as can be seen on Figure 2, the parcels upon which these IR sites are located are not being transferred as "Clean." Additionally, a buffer zone of at least 200 feet around the known extent of contamination at these IR sites was considered non-transferable for the purpose of this RAP. These two IR sites are discussed in more detail

in Section 4.6.9 "Contaminated Sites Adjacent to IA-A1 Clean Parcels."

4.2 UNEXPLODED ORDNANCE (UXO) PROGRAM

Because MINS had a long history as a military facility with ordnance storage, ordnance manufacture, and small arms firing ranges, an UXO program was initiated to identify potential areas of UXO concern and to perform investigation and remediation of those areas as needed. The UXO program was also responsible for assessment and remediation (if necessary) of small arms ranges in addition to the responsibilities for areas that may contain actual UXO. A summary of potential UXO and firing ranges related environmental concerns is included in Table 4-1. The majority of the explosive ordnance manufacture and storage activities were conducted on the southern portion of MINS. As a result, there are few identified activities documented that would suggest the presence of UXO in the IA-A1 Clean Parcels of MINS. However, there was one small arms range that previously existed partially within IA-A1 Clean Parcels. The locations of this small arms range (Northern Marine Corps Range) is shown in Figure 3. Although UXO would not normally be found at small arms ranges, a screening for UXO was conducted as part of the assessment for this range. During the investigation of this range, bullets and bullet fragments (non-explosive) were discovered, but no UXO or explosive ordnance debris was discovered. The bullets and bullet fragments were found in the backstops for the rifle range which were located west of Investigation Area A1, in an area that is not being evaluated as part of this RAP. Although investigations at the skeet range did not detect any significant concentrations of lead or other source of contamination, and the skeet range had been included in the draft RAP for IA-A1 Clean Parcels, the skeet range has not been included in this Final IA-A1 Clean Parcels RAP due to concerns regarding the adequacy of the soil data with respect to the original skeet range surface currently under several feet of fill material. A summary of the investigative work for UXO and small arms ranges is presented in the *"Preliminary Assessment Final Summary Report, Ordnance Sites"* PRC Environmental Management, Inc. (PRC)(9/95), and the *"Unexploded Ordnance Site Investigation of Mare Island Naval Shipyard - Final Summary Report"* SSPORTS Environmental Detachment (4/28/97).

4.3 POLYCHLORINATED BIPHENYLS (PCB) PROGRAM

The EBS and other environmental investigations and documents identified several areas and pieces of equipment that were of potential environmental concern because of the potential presence of PCBs. All of the potential PCB related environmental sites or concerns within IA-A1 Clean Parcels are summarized in Table 4-1. As part of the PCB program a systematic and thorough approach was taken to replace all

PCB equipment and to evaluate, sample and analyze, and perform abatement (as necessary) of all areas and equipment that could potentially be contaminated with PCBs. The initial program of assessment and abatement was conducted by Supervisor of Shipbuilding Portsmouth Environmental Detachment (SSPORTS). The analytical method used by SSPORTS for verifying the cleanup of PCBs was considered to be a screening method, and a subsequent sampling and analysis verification program (using a state-certified analytical laboratory) was performed by TetraTech, EM Inc. (TTEMI). Documentation of all of the PCB abatement activities and sampling and analysis results are contained in the *"Basewide Polychlorinated Biphenyl Confirmation Sampling Summary Report"* TTEMI (2/13/98).

4.4 RADIOLOGICAL PROGRAM

The EBS, historical records, and environmental investigations identified several areas within the IA-A1 Clean Parcels where radiological materials may have been used or stored. The radiological program was divided into two main groups of sampling and abatement (as necessary). The two radiological groups were the "General Radioactive Material (G-RAM) Surveys", and the "Naval Nuclear Propulsion Program (NNPP) Surveys."

Sites that were suspected of potentially having radiological contamination were subjected to a densely spaced grid surveying. The radiological program included sampling of floors, walls, soil, groundwater, equipment, and any media that could have any potential for radiological activity. Abatement was conducted in all areas where elevated levels of radioactivity were encountered

Although there were several potential areas of concern within IA-A1 Clean Parcels, all areas with known or detected radiological contamination have been abated to levels that area considered representative of background and are protective of human health and the environment for unrestricted use. Summaries of the radiological surveying and abatement for the G-RAM activities were submitted to the regulatory agencies on an individual and occasionally a grouped basis. These reports and documents that summarize the activities and results of the G-Ram program are referenced in DTSC's concurrence letter dated October 23, 1997. A summary of the NNPP sampling and abatement activities is presented in the *"Naval Nuclear Propulsion Program (NNPP) Radiological Survey Plan (Volume I, Books 1 and 2), and Radiological Final Report (Volume II, Books 1-8)"* (4/1/96).

4.5 UNDERGROUND STORAGE TANK (UST) PROGRAM

The EBS, historical records, and environmental investigations identified several USTs (or suspected USTs) within the IA-A1 Clean Parcels and on immediately adjacent parcels. A summary of sites (within IA-A1 Clean Parcels) that were evaluated as having a potential environmental concern because of suspected USTs is included in Table 4-1. Of the four USTs suspected within the IA-A1 Clean Parcels two have been removed (Building 999 UST, and Building 571 UST), and two have not been located despite several investigation attempts. Attempts to locate the tank(s) at Building 655 have been conducted by SSPORTS *"Suspect Underground Storage Tank Investigation"* (7/27/98), and PRC *"Underground Storage Tank Investigation Summary Report* (10/9/91). Most recently, an additional investigation was conducted by TTEMI on May 3, 4, and 5, 2000. Although a vent pipe exists at the building, the tank was not located during the installation of 12 additional direct-push borings. Several soil samples were collected from the borings for TPH analyses. One sample was also submitted to the laboratory for analysis of potential CERCLA contaminants.

Within investigation area A1, but not within the "Clean" portions being considered in this RAP are the locations of the former USTs at the Building 993 gas station, and former USTs at Building 503 (IR 17). At the Building 993 gas station there was a waste oil tank and three fuel tanks that were removed as part of the UST program. At least one of these tanks is suspected of leaking and therefore this area has not been included in this NFA-RAP. The former USTs at Building 503 are within the boundaries of IR 17, an area with known contamination problems. IR17 is currently undergoing additional evaluations to determine if additional remedial actions are required at the site.

4.6 OTHER POTENTIAL SITES AND ENVIRONMENTAL CONCERNS

In addition to the above mentioned environmental programs, numerous other potential environmental concerns have been raised, discussed and evaluated as part of the overall environmental restoration process occurring at MINS. A brief description of these potential sites and concerns is presented below.

4.6.1 PRELIMINARY ASSESSMENT/SITE INSPECTION SITES

The RCRA Facility Assessment (RFA) identified 110 sites to be addressed as PA/SI sites. An additional 31 sites were addressed as PA/SI sites at the request of the U.S. EPA and the California DTSC. The majority of these sites were managed within one of the major environmental programs described above. A summary of the PA/SI sites within the IA-A1 Clean Parcels is included in Table 4-1. Additional

information regarding PA/SI sites is contained in the report: *"Preliminary Assessment/Site Inspection Final Summary Report, Nonradiological Sites"* PRC (5/19/95).

4.6.2 GROUP II/III SITES

Many of the PA/SI sites were evaluated as part of the one of the major programs described previously. Additional potential sites were identified as being less of a critical environmental concern, but these sites still warranted additional investigation to determine the presence or absence of releases of hazardous substances. These potentially less significant sites were designated as Group II/III sites. A summary of Group II/III sites is included in Table 4-1. The Domestic pumping stations (DOM) were designated as Group II/III sites but are discussed separately below.

4.6.3 STORM SEWERS AND PUMP STATIONS

The EBS and RFA identified the storm sewer system (SWMU-93) and the sanitary sewer system (SWMU-106) throughout the MINS facility as Group II sites. The sewer systems were not investigated in their entirety, but were sampled when they existed within other contaminated areas, or there was additional reason to suspect potential contamination. However, because the pump stations act as gravity flow collection areas, pump stations were the subject of sampling and analysis verification studies. Two of the domestic pumping stations (DOM) located within the IA-A1 Clean Parcels, DOM1 and DOM2 were investigated for potential release of contaminants. A summary of these potential environmental concerns is included in Table 4-1.

4.6.4 UTILITY CORRIDORS AND SAND BLAST GRIT

During removal actions involving USTs, underground piping and utilities, it was discovered that spent sand blast grit was occasionally used for bedding and backfill material. Spent sandblast grit from other areas of MINS was tested and was determined to contain elevated concentration of heavy metals. During removal actions, if this sandblast was encountered it was removed; however, there has not been a program to identify and remove all sources of this material. Because the spent sand blast grit is only encountered infrequently, and is present in small volumes when encountered, this sand blast grit is not considered to represent a significant risk to human health or the environment.

4.6.5 LEAD BASED PAINT

The Navy conducted an inspection of lead-based paint (LBP) at MINS pursuant to Department of

Defense (DoD) guidelines ("asbestos, lead paint, and radon Policies at BRAC Properties," memorandum from the Office of the Under Secretary of Defense, October 31, 1994).

The survey indicated that lead contamination is present in soil adjacent to structures painted with lead based paint. Removal of lead contaminated soil has been completed at various places throughout MINS. Only at locations where severe paint chipping and peeling were observed was abatement implemented. At areas sampled in IA-A1 Clean Parcels, the residual concentration of lead in soil was determined to be less than the residential screening level of 400 mg/kg.

Based on a review by EPA and DTSC of the existing structures in IA-A1 Clean Parcels, the EPA conducted sampling and analysis for lead in soil by the structures considered most representative for significant releases of lead. EPA documented their findings in a report dated February 1999, prepared by their contractor, Roy F. Weston, Inc. Both agencies concluded, based on this report, that lead in soil is IA-A1 Clean Parcels did not present a significant risk to human health or the environment.

4.6.6 ASBESTOS-CONTAINING MATERIALS

As part of the EBS, an asbestos survey was conducted for non-housing facilities at MINS. The majority of the asbestos encountered was not friable, accessible or damaged asbestos-containing materials (ACM). Results of the survey for the IA-A1 Clean Parcels indicated that most ACM was nonfriable or friable but in good condition, therefore abatement was not required; operations and maintenance programs were recommended. Although some friable asbestos required abatement, no areas where significant releases of asbestos to the environment were identified. ACM exists in buildings in IA-A1 Clean Parcels. This ACM currently poses no human health or environmental problems; however, if the ACM is not managed in compliance with the site operations and maintenance plan, and applicable laws and regulations, it may become a hazard. Further, if asbestos becomes friable and is released to the soil under or around buildings, it may require a remedy pursuant to Chapter 6.8 of the California Health and Safety Code.

4.6.7 PESTICIDES

There is no evidence to suggest that pesticides, other than those ordinarily and routinely applied in a manner consistent with the standards for licensed application, were ever used at IA-A1 Clean Parcels of MINS. Pesticides, insecticides, termiticides, rodenticides, and herbicides were applied intermittently on an as needed basis at IA-A1 Clean Parcels of MINS either by personnel from the Navy or by contracted

personnel.

A review of past records (as part of the EBS) indicates that numerous pesticides and herbicides may have typically been used at IA-A1 Clean Parcels of MINS. Pesticides and herbicides that were commonly applied in areas such as IA-A1 Clean Parcels (industrial, quarters, recreational) included: Avitrol, Demon EC & WP, Dursban 4E, Dursban TC, Ficam-W, Gencor, PT240 Permadust, Bug Out Pyrethrin, PT-565 plus pyrethrum, Roundup, Safrotin, Talon G, and Vaponite 2.

None of the buildings within IA-A1 Clean Parcels were used for pesticide or herbicide storage or handling. Additionally, there have been no known spills of pesticides or herbicides within IA-A1 Clean Parcels. Residual pesticides or herbicides within IA-A1 Clean Parcels are considered to be a result of normal application of these products, and in concentrations that do not warrant limitations on use of the property pursuant to Chapter 6.8 of the Health and Safety Code.

4.6.8 AMBIENT CONCENTRATIONS OF CONTAMINANTS

The majority of MINS is reclaimed land that has been elevated by the deposition of dredge spoils and imported fill materials. In order to assess whether an area has been adversely impacted by naval operations at MINS, it is necessary to know the ambient or background concentration of naturally occurring toxic metals. Because the majority of IA-A1 Clean Parcels are constructed on top of fill material, the concentrations of metals in fill are considered to represent "ambient" concentrations as opposed to "background."

In performing the evaluation of ambient concentrations of inorganic metals at MINS it was determined that arsenic was present at the facility in concentrations greater than the commonly applied health-based screening values. A study was performed to assess the commonly encountered ambient concentrations of inorganic metals in soil throughout the bay area. Although the arsenic ambient concentrations at MINS were elevated above health based screening values, these ambient concentrations were consistent with background values measured at numerous sites at MINS and throughout the east bay. Because the ambient concentrations of arsenic at MINS are comparable to areas throughout the east bay, these elevated concentrations are not considered to be anthropogenic and do not require remediation.

With the exception of arsenic, no inorganic metals were detected at ambient concentrations that were

significantly elevated above health based screening values.

4.6.9 CONTAMINATED SITES ADJACENT TO IA-A1 CLEAN PARCELS

There are several areas adjacent to IA-A1 Clean Parcels that represent a potential for migration of contaminants to IA-A1 Clean Parcels. The most significant sites of potential concern that are adjacent to IA-A1 Clean Parcels are two IR-sites, and the UST sites at Building 993.

The two IR-sites within the vicinity IA-A1 Clean Parcels are IR08 and IR17. As shown on Figure 2, IR08 is located near the northwest corner of MINS in subparcels 01-D1 and 01-D2. The primary contamination at IR08 was lead oxide in soil from battery storage that occurred in the area. The Navy has implemented a significant removal action at IR08, and based on the results of verification sampling and analysis, the Navy's consultant (TTEMI) has recommended no further action for this IR site. TTEMI made the recommendation for no further action in the document: "*Draft Final Remedial Investigation for Installation Restoration Site IR08,*" TTEMI (February 23, 2000). Although the contamination at IR08 may have been adequately remediated, the final regulatory review and certification has not yet been completed and therefore these two subparcels have not been included in this RAP. However, because removal of lead contamination appears to have been completed, there appears to be an insignificant potential for contaminants at this site to migrate to IA-A1 Clean Parcels.

IR17 is located within subparcels 01-I and 01-J1 as shown in Figure 2. In order to provide an additional safeguard against potential migration of contaminants, this area has been extended to encompass the area shown as "Building 503 Area" on Figure 2. Note: Building 503 is located within the center area of IR17. As shown on Figure 2, the "Building 503 Area" covers portions subparcels 01-B, 01-C, 01-H, 01-I, 01-J1, 01-J2, 01-L1, and 01-L2. Although a soil removal action has occurred at IR17, significant groundwater contamination still exists at the site. In order to assist in the transfer of IA-A1 Clean Parcels, TTEMI was tasked by the Navy to prepare the *"Final Technical Memorandum, Groundwater Assessment for Property Transfer in Reuse Zone 1"* TTEMI (March 7, 2000). Based on contaminant transport modeling and the assessment of TTEMI professionals, the report concludes that there is little potential for contaminants to migrate from IR17 to the IA-A1 Clean Parcels within a five-year period. The parcels, or portions of parcels that are considered transferable in this RAP were selected based on providing a safeguard distance for 5-years of migration as indicated in the transport modeling, plus an additional buffer of at least 200 feet (transferable area as shown on Figure 2).

The other potentially contaminated area adjacent to IA-A1 Clean Parcels is the former fueling station in Subparcel 01-L2 (Figure 2). There were three 12,000-gallon underground fuel tanks (993-1, 2, & 3) and a 500-gallon waste oil tank (993-4) at this site. All of these USTs were removed; however, contamination was discovered in the soil and groundwater adjacent to the waste oil tank (993-4). Potential chemicals of concern included Total Petroleum Hydrocarbons (TPH), Oil & Grease, Lead, BTEX (Benzene, Toluene, Ethyl-benzene, Xylenes), and low concentrations of chlorinated solvents.

Although contamination from UXO is not anticipated to migrate to IA-A1 Clean Parcels, within Mare Island Strait there have been anomalies identified that could potentially be UXO. These anomalies when addressed may require a safety-arc (exclusion zone) that would extend into IA-A1 Clean Parcels. Although this would not prohibit the development of IA-A1 Clean Parcels, it may require that certain areas of IA-A1 Clean Parcels be evacuated during time periods when UXO work is being conducted. These potential actions are not related to contamination in IA-A1 Clean Parcels, and are therefore not the subject of this RAP. However, they will be considered in future investigation and cleanup decision processes.

5.0 HEALTH AND SAFETY RISKS POSED BY CONDITIONS AT THE SITE

This section discusses the primary basis for determining that specific conditions at IA-A1 Clean Parcels do not present a significant threat to human health, welfare, and the environment, and supports the determination that no further action is necessary. While the previous section identified the potential environmental concerns that were evaluated at the IA-A1 Clean Parcels of MINS, this section identifies: cleanup or abatement actions that were previously implemented (if necessary), sampling and analysis activities that have been performed in order to verify cleanup or determine that no remedial actions are necessary, and resolution of potential environmental concerns demonstrating that no further action is required at the IA-A1 Clean Parcels pursuant to the NCP.

An overall summary table which lists the potential environmental concerns identified in the EBS (and other documents and investigations), describes the findings of investigative work, and describes the resolution of identified problem areas is presented in Table 5-1. This table parallels Table 4-1 and is organized to match the five major environmental programs previously and/or currently implemented at MINS to address major groups of potential concerns. These major programs include:

- Installation Restoration (IR) Program
- Unexploded Ordinance (UXO) Program
- Polychlorinated Biphenyl (PCB) Program
- Radiological Program
- Underground Storage Tank (UST) Program

Although many sites identified were addressed under other programs unrelated to investigation and remediation pursuant to Chapter 6.8 of the Health and Safety Code, the resulting residual contamination must still be addressed in the context of a decision pursuant to Chapter 6.8 of the Health and Safety Code at this site. Hence, residuals from several previous abatements, cleanups or other actions not related to implementation of the NCP are considered in this RAP.

5.1 INSTALLATION RESTORATION (IR) PROGRAM

The IR program identified 24 IR sites at MINS, but none of these sites are located within IA-A1 Clean

Parcels. Two IR sites (IR08 and IR17) located within investigation area A1 on parcels adjacent to IA-A1 Clean Parcels. The location of these IR sites is shown on Figure 2. Since neither of these two IR sites is located within IA-A1 Clean Parcels, they do not represent an immediate on-site risk. However, these sites are discussed in more detail in section 5.6.9 "Contaminated Sites Adjacent to IA-A1 Clean Parcels."

5.2 UNEXPLODED ORDNANCE (UXO) PROGRAM

As described in section 4.2, there are no known ordnance manufacture or usage areas within IA-A1 Clean Parcels. However, there was one small arms firing range – the Northern Marine Corps Range - that was previously operated in the area with the location as shown in Figure 3. This area was screened for UXO, with no UXO or ordnance scrap being discovered during the investigations. Bullet fragments (non-explosive) were discovered at the target butts, located outside of IA-A1 Clean Parcels, for the Northern Marine Corps Range.

The Northern Marine Corps Range extended from IA-A1 Clean Parcels to the target butts that were located considerably to the west of IA-A1 Clean Parcels. The target butts were sampled and composite samples were analyzed for copper lead and zinc. Samples from the target butts contained concentrations of copper, lead, and zinc that were slightly in excess of normal background concentrations. However, the concentrations of copper and zinc were below applicable health-based screening values (EPA Preliminary Remediation Goals (PRG)) and below cleanup values in each of the 25 samples collected. Because the target butts for the Northern Marine Corps Range 1) are not located within IA-A1 Clean Parcels, 2) were screened for UXO with negative results, and 3) a sampling and analysis program did not detect any of the three heavy metals at concentrations that exceed cleanup levels, these target butts are not considered to represent a significant risk to human health or the environment at IA-A1 Clean Parcels, and therefore no further action is required.

The skeet range was also screened for UXO, with all anomalies that were investigated being void of any evidence of UXO. Because of the relatively small size, location, and direction of the skeet range, it is unlikely that explosive ordnance would have been fired at the site. Twelve composite soil samples were also collected from the site and analyzed for lead, copper, and zinc. All samples contained concentrations of these three metals that were lower than applicable EPA PRG values. Although the sampling and analysis program did not detect contaminants at concentrations in excess of PRGs, and UXO screening had been conducted with negative results, the former skeet range area has been excluded

from the Final IA-A1 Clean Parcels RAP because of concern regarding the adequacy of the soil data with respect to the original skeet range surface currently under several feet of fill material.

5.3 POLYCHLORINATED BIPHENYLS (PCB) PROGRAM

The EBS and other environmental investigations and documents identified several areas and pieces of equipment that were of potential environmental concern because of the potential presence of PCBs. Numerous transformers, electrical switches, and other pieces of equipment were sampled and analyzed as a precautionary measure to determine the presence or absence of PCBs. Table 4-1 lists all of the 24 areas within IA-A1 Clean Parcels that were sampled and analyzed for PCBs. The majority of these areas were clean, but remedial actions were implemented at three locations within IA-A1 Clean Parcels. Remediation primarily consisted of removing (scabbling) away the top layer of concrete contaminated at transformer pads where PCBs had leaked or spilled. Table 5-1 presents a summary of the removal actions and verification sampling for each of the potential PCB sites identified and sampled. PCBs remain at one site within building 571. PCB contamination of up to 620 ppm does exist underneath fixed electrical equipment within the building. However, the contamination has been encapsulated at the base of the equipment to prevent casual leakage and to eliminate the potential for human exposure. The encapsulation consists of epoxy sealant highlighted with a wear indicator paint. The area immediately beyond the base of the equipment was decontaminated by removing the surface layer of concrete that contained PCBs. All exposed surface areas and equipment was determined to have PCBs below screening criteria for surface swipe samples. Because this site is located indoors and on a concrete foundation and encapsulated, it was determined that this site did not represent a release or threat of a release to the environment. However, any demolition of the building 571, or modification to this building, in particular such that the encapsulated site may be affected, is subject to all applicable regulations governing toxic substances and hazardous waste. Disposal of any building material or debris from this building, in particular from this encapsulated site, must be disposed of in accordance with applicable hazardous and solid waste regulations.

All of the verification samples outside of buildings contained PCBs at concentrations less than 1 ppm. Some of these other sites have PCBs at concentrations above the Preliminary Remedial Goal of .22 ppm but below the 1 ppm concentration often accepted by the USEPA and DTSC as a final remedial goal. These sites were determined to not present a significant risk to human health or the environment on consideration of low concentration in media and limited extent.

5.4 RADIOLOGICAL PROGRAM

The radiological program was divided into two main groups of sampling and abatement (as necessary). The two radiological groups were the "General Radioactive Material (G-RAM) Surveys", and the "Naval Nuclear Propulsion Program (NNPP) Surveys."

Extensive surveys were conducted in numerous areas throughout IA-A1 Clean Parcels. A summary of the NNPP sampling and abatement activities is presented in the report *"Naval Nuclear Propulsion Program (NNPP) Radiological Survey Plan (Volume I, Books 1 and 2), and Radiological Final Report (Volume II, Books 1-8)"* (4/1/96). DTSC provided ongoing regulatory review and oversight throughout the radiological program, and certified closure of both the G-RAM and NNPP programs in letters to the Navy dated October 23, 1997 and March 18, 1996 respectively. As documented by these letters, DTSC no longer considers radiological contamination at IA-A1 Clean Parcels to represent a significant risk to human health or the environment, and therefore no further action is required.

5.5 UNDERGROUND STORAGE TANK (UST) PROGRAM

Four USTs were suspected of being located within the IA-A1 Clean Parcels. Two of the tanks have been removed (Building 999 UST, and Building 577 UST), and two tanks have not been located despite duplicative investigation attempts. Attempts to locate the two tanks at Building 655 have been conducted by SSPORTS *"Suspect Underground Storage Tank Investigation" (*7/27/98), and PRC *"Underground Storage Tank Investigation Summary Report* (10/9/91). It was also determined that the two tanks suspected of being located at Building 655 were generated as two different references to the same tank. A third attempt to locate the tank was conducted in May, 2000 by TTEMI. The third attempt to locate the tank included the collection of soil samples and a groundwater sample for laboratory analysis. Although none of the twelve direct-push borings encountered the tank, low levels of petroleum hydrocarbon contamination were detected in several of the soil samples collected. The soil sample tested for potential CERCLA constituents did not contain significantly elevated concentrations of metals, volatile organic compounds, semi-volatile organic compounds, pesticides, or PCBs. Because this area represents a petroleum only release, the final restoration of this area does not come under the purview of CERCLA and will be managed by the RWQCB outside of this RAP.

The Building 999 UST was removed in July, 1990, with no signs of significant tank failure. The State

RWQCB concurred that no further action is required for this tank in its letter dated December 7, 1995.

Similarly, the Building 577 UST was a 2,000-gallon oily water/ wastewater tank that was removed August 23, 1990. Although minor contamination was detected, the Cal-EPA concluded that no-further action was necessary in its letter dated June 5, 1998.

There are a two UST sites with detected contamination on parcels adjacent to IA-A1 Clean Parcels. These UST sites are discussed in section 5.6.9 below.

5.6 OTHER POTENTIAL SITES AND ENVIRONMENTAL CONCERNS

In addition to the above mentioned environmental programs, numerous other potential environmental concerns have been raised, discussed and evaluated as part of the overall environmental restoration process occurring at MINS. A brief description of these potential sites and concerns is presented below.

5.6.1 PRELIMINARY ASSESSMENT/SITE INSPECTION SITES

Many of the sites identified as PA/SI were evaluated and managed under other programs, e.g. Radiological, UST, UXO, PCB, and IR. A summary of these sites along with information that supports identifying them as not representing a significant risk to human health and the environment is presented in Table 5-1.

5.6.2 GROUP II/III SITES

Similar to the PA/SI sites, most of the Group II/III sites were completed within other programs, for example, the DOMs discussed immediately below were considered as a group II site. A summary of these sites along with information that supports identifying them as not representing a significant risk to human health and the environment is presented in Table 5-1.

5.6.3 STORM SEWERS AND PUMP STATIONS

All pump stations were the subject of sampling and analysis verification studies to determine if they represented a source of contamination. There are two domestic pumping stations (DOM) located within the IA-A1 Clean Parcels, DOM1 and DOM2. Initial sampling and analysis of both soil and groundwater at DOM1 did not detect any significantly elevated concentrations of contaminants. Initial sampling and analysis of soil and groundwater at DOM2 indicated the presence of slightly elevated levels of several

potential chemicals of concern. Three rounds of subsequent step-out sampling and analysis appear to have detected the limits of the contamination plume. Because the contaminants were detected at only slightly elevated concentrations, and the limits of contamination have been determined, TTEMI recommended that the site be considered for no further action. DTSC concurred with this recommendation that no further action was required for the DOM-1 or DOM-2 in its letter to the Navy dated May 4, 2000.

5.6.4 UTILITY CORRIDORS AND SAND BLAST GRIT

Spent sand blast grit, which may contain elevated levels of heavy metals, was occasionally used in small quantities as bedding material within trenches, utility corridors, and underground tank installations. The small quantities that have been found within these utility corridors are not considered to represent a significant risk to human health or the environment. However, operational safety standards have been implemented throughout MINS that require identification and abatement of spent sandblast grit when it is encountered during any subsurface work at MINS. Because operational controls have been implemented at MINS, and only very small quantities of spent sand blast grit have been encountered in utility corridors, this sand blast grit is not considered to represent a significant risk to human health and the environment and therefore no further action is required. In a letter dated October 7, 1999, DTSC concurred with the Navy that the remaining sandblast grit in utility trenches at MINS does not present a need for further action pursuant to Chapter 6.8, Division 20 of the Health and Safety Code.

5.6.5 LEAD BASED PAINT

Based on other investigations at MINS, LBP is present on the buildings and structures within IA-A1 Clean Parcels. At areas sampled in IA-A1 Clean Parcels, the residual concentration of lead in soil was determined to be less than the residential cleanup level at MINS of 400 mg/kg. Because the samples contained concentrations of lead that were less than the residential cleanup level, remediation was not required, and the lead based paint is not considered to represent a significant risk to human health or the environment, and therefore, no further action is required.

Based on a review by EPA and DTSC of the existing structures in IA-A1 Clean Parcels, the EPA conducted sampling and analysis for lead in soil by the structures considered most representative for significant releases of lead. EPA documented their findings in a report dated February 1999, prepared by their contractor, Roy F. Weston, Inc. Both agencies concluded, based on this report, that lead in soil is

IA-A1 Clean Parcels did not present a significant risk to human health or the environment.

5.6.6 ASBESTOS-CONTAINING MATERIALS

As part of the EBS, an asbestos survey was conducted for non-housing facilities at MINS. The majority of the asbestos encountered was not friable, accessible or damaged asbestos-containing materials (ACM). During this program friable ACM was abated when encountered. ACMs are known to exist in buildings at IA-A1 Clean Parcels of MINS. This asbestos-containing material currently poses no human health or environmental problems; however, if the asbestos-containing material is not managed in compliance with the site operations and maintenance plan, and applicable local, state, and Federal laws and regulations, it may become a hazard. Further, if asbestos becomes friable and is released to the soil under or around buildings, it may require a remedy pursuant to Chapter 6.8 of the California Health and Safety Code. However, most of the ACM will be removed during building demolition activities. Because the ACM does not currently represent a significant risk to human health or the environment, and the majority of remaining ACM will be removed during building demolition activities, no further action is required.

5.6.7 PESTICIDES

There is no evidence to suggest that pesticides, other than those ordinarily and routinely applied in a manner consistent with the standards for licensed application, were ever used at IA-A1 Clean Parcels of MINS. Because pesticides were not stored or mixed within IA-A1 Clean Parcels, and there are no records of intensive use or spills of pesticides within IA-A1 Clean Parcels, pesticides are not considered to represent a significant health risk at IA-A1 Clean Parcels and therefore no further action is required.

5.6.8 AMBIENT CONCENTRATIONS OF CONTAMINANTS

Because the majority of MINS consists of reclaimed land that was developed by the placement of dredge spoils and imported fill materials, an effort was made to determine the ambient concentrations of heavy metals. Arsenic was the only metal detected at concentrations that significantly exceeded cleanup levels for residential use. A study was conducted to determine ambient concentrations of arsenic throughout the Bay Area. This study showed that the arsenic concentrations measured at MINS are consistent with arsenic concentrations encountered throughout the Bay Area. Because the ambient concentrations of arsenic at MINS are comparable to areas throughout the east bay, these elevated concentrations are not considered to be anthropogenic and do not require remediation. Because the ambient concentrations of metals do not represent a significant risk over normal background concentrations, these metals are

considered to require no further action within IA-A1 Clean Parcels at MINS.

5.6.9 CONTAMINATED SITES ADJACENT TO IA-A1 CLEAN PARCELS

The primary contaminated sites of concern adjacent to IA-A1 Clean Parcels are the two IR sites 17 and 08, and the former underground waste oil tank at Building 993.

The two IR-sites within the vicinity IA-A1 Clean Parcels are IR08 and IR17. As shown on Figure 2, IR08 is located near the northwest corner of MINS in subparcels 01-D1 and 01-D2. The primary contamination at IR08 was lead oxide in soil from battery storage that occurred in the area. The Navy has implemented a significant removal action at IR08, and based on the results of verification sampling and analysis, the Navy's consultant (TTEMI) has recommended no further action for this IR site. TTEMI made the recommendation for no further action in the document: "*Draft Final Remedial Investigation for Installation Restoration Site IR08,*" TTEMI (February 23, 2000). Although the contamination at IR08 may have been completely remediated, the final regulatory review and certification has not yet been completed and therefore these two subparcels have not been included in this RAP. However, because this site has been largely remediated, there appears to be a low potential for contaminants at this site to have migrated to IA-A1 Clean Parcels.

IR17 is located within subparcels 01-I and 01-J1 as shown in Figure 2. In order to provide an additional safeguard against potential migration of contaminants, this area has been extended to encompass the area shown as "Building 503 Area" on Figure 2. Note: Building 503 is located within the center area of IR17. As shown on Figure 2, the "Building 503 Area" covers portions subparcels 01-B, 01-C, 01-H, 01-I, 01-J1, 01-J2, 01-L1, and 01-L2. Although a soil removal action has occurred at IR17, significant groundwater contamination still exists at the site. In order to assist in the transfer of IA-A1 Clean Parcels, TTEMI was tasked by the Navy to prepare the *"Final Technical Memorandum, Groundwater Assessment for Property Transfer in Reuse Zone 1"* TTEMI (March 7, 2000). Based on contaminant transport modeling and the assessment of TTEMI professionals, the report concludes that there is little potential for contaminants to migrate from IR17 to the IA-A1 Clean Parcels within a five-year period. The parcels, or portions of parcels that area considered transferable in this RAP were selected based on providing a safeguard distance for 5-years of migration as indicated in the transport modeling, plus an additional buffer of at least 200 feet (transferable area as shown on Figure 2).

The other potentially contaminated area adjacent to IA-A1 Clean Parcels is the former fueling station in Subparcel 01-L2 (Figure 2). There were three 12,000-gallon underground fuel tanks (993-1, 2, & 3) and a 500-gallon waste oil tank (993-4) at this site. All of these USTs were removed; however, contamination was discovered in the soil and groundwater adjacent to the waste oil tank (993-4). Potential chemicals of concern included Total Petroleum Hydrocarbons (TPH), Oil & Grease, Lead, BTEX (Benzene, Toluene, Ethyl-benzene, Xylenes), and low concentrations of chlorinated solvents. The limits of the contamination plume in soil and groundwater appear to be limited to a small area within subparcel 01-L2, and a buffer zone of two-hundred feet has been established between the contaminated area and the IA-A1 Clean Parcels area that is being considered for transfer under this RAP.

These contaminated sites are not being considered for transfer or release, but are located adjacent to IA-A1 Clean Parcels. These contaminated sites appear to be relatively small in extent or are moderately well defined with little potential for migration of contaminants from these sites to IA-A1 Clean Parcels. In the "*Final Technical Memorandum, Groundwater Assessment for Property Transfer in Reuse Zone 1*" TTEMI performed groundwater water modeling and an assessment of the potential for contaminants to migrate from IR17. In addition to the potential contaminant migration distances estimated by TTEMI's modeling, a buffer zone of at least 200 feet was also extended around adjacent contaminated sites to determine areas that are considered as requiring no further action. Because there is a low risk of contaminants migrating from these sites to IA-A1 Clean Parcels and they do not presently represent a significant risk to human health or the environment at IA-A1 Clean Parcels, no further action is required to mitigate potential risks associated with migration of contaminants from adjacent sites.

6.0 EFFECTS OF CONTAMINATION UPON PRESENT, FUTURE, AND PROBABLE BENEFICIAL USES OF RESOURCES

This section discusses the effects of contamination on the present use of land and groundwater at IA-A1 Clean Parcels of MINS, the potential use, and the probable beneficial use of the land and water. Because CERCLA contamination at the site has been reduced to levels below residential cleanup levels, residual contamination will not have any adverse effects upon the future and probable beneficial uses of the property. However, residual hazardous materials within buildings (e.g. asbestos, encapsulated PCBs, lead-based paint) must be managed in accordance with applicable regulations when buildings are demolished or designated for reuse.

6.1 PRESENT USES OF LAND/WATER

Currently, the majority of the land, buildings and property are being retained unused. Throughout the past, land uses within IA-A1 Clean Parcels have been primarily light industrial (warehousing, offices, materials storage), with significant portions of the property also being used for housing (condominiums, apartment developments, barracks), and recreational (baseball fields, activities fields, shooting ranges). Uses of the adjacent properties have been primarily those associated with shipyard operations. Areas adjacent to the industrialized areas of MINS include waterways (Mare Island Strait, Carquinez Strait, San Pablo Bay), Dredge ponds, wetlands and tidal marshes. At present, residual CERCLA contamination of land and soil at IA-A1 Clean Parcels does not represent a significant risk to human health and the environment, and does not adversely affect the present uses of this land.

There are no lakes, streams, ponds, or other areas with significant surface water within IA-A1 Clean Parcels; however, during heavy rainfall shallow surface water ponding occurs on occasion. Shallow groundwater within IA-A1 Clean Parcels is naturally of poor quality (adjacent to areas of salt water and within imported fill material) and therefore has no current uses at the site. Deeper groundwater aquifers are known to exist at the site, however, these aquifers are not currently or historically being used as a source of drinking water within IA-A1 Clean Parcels. Although contamination of the shallow aquifer has been documented at sites immediately adjacent to IA-A1 Clean Parcels, contamination of the deeper aquifer has not been documented at IA-A1 Clean Parcels or at sites immediately adjacent to IA-A1 Clean Parcels. At present, residual CERCLA contamination of surface and groundwater at IA-A1 Clean Parcels does not represent a significant risk to human health and the environment, and does not adversely

affect the present uses of this water.

6.2 PROBABLE AND POTENTIAL BENEFICIAL FUTURE USES OF LAND/WATER

The reuse plan for IA-A1 Clean Parcels indicates that the area is to be primarily developed for light industrial activities including warehouse buildings and business offices. However, residential development has been considered for a portion of IA-A1 Clean Parcels. This NFA-RAP was prepared for those portions of A1 that have no restrictions upon future development or land use. All areas within IA-A1 Clean Parcels (that have been the subject of removal actions) have been remediated to cleanup levels that are appropriate for residential use, which are more stringent than cleanup standards for industrial use. Although light industrial use is the most probable beneficial reuse of the land in the area, residential reuse could potentially occur, and therefore the more stringent standards apply for the purpose of this NFA-RAP. At present, residual CERCLA contamination of land and soil at IA-A1 Clean Parcels is below residential cleanup levels does not represent a significant risk to human health and the environment, and does not adversely affect the probable or potential future uses of this land.

It is most probable that groundwater at IA-A1 Clean Parcels will not have any future use because of the relatively high salinity and dissolved solid content of the water. However, in accordance with the State Water Resources Control Board Resolution No. 88-63, the groundwater at IA-A1 Clean Parcels may be classified as a potential drinking water source. Although the groundwater is not likely to be used as drinking water because of high levels of iron and other minerals, future probable and potential uses of the groundwater are not limited due to the presence of contamination from anthropogenic sources. Residual groundwater contamination at IA-A1 Clean Parcels does not represent a significant risk to human health and the environment, and does not adversely affect the probable or potential future of this land.

7.0 RECOMMENDED REMEDIAL ACTION

A remedial investigation and feasibility study was not conducted for IA-A1 Clean Parcels; however, based on the evaluation of existing assessment information, summarized below, the State of California has determined that no further remedial action for hazardous substances is necessary to ensure protection of human health and the environment at IA-A1 Clean Parcels of MINS.

- There are no IR sites located within IA-A1 Clean Parcels, and the two IR sites that are located on parcels adjacent to IA-A1 Clean Parcels (IR08 and IR17), do not represent a significant risk to human health or the environment at IA-A1 Clean Parcels. Based on TTEMI's modeling (TTEMI, 3/7/2000), contaminants from IR17 are not expected to migrate to within 200 feet (buffer zone) of IA-A1 Clean Parcels within a five-year period of time. The majority of the contamination has been removed from IR08 and there have not been any widespread groundwater impacts from the site.

- Explosive ordnance were not typically used, or stored within areas of A1- Clean parcels. One small arms firing range - the Northern Marine Corps Range - was partially located within IA-A1 Clean Parcels, with the target butts being located to the west of IA-A1 Clean Parcels. The Northern Marine Corps Range was screened for UXO, with no UXO or UXO scrap being discovered during the investigation. The firing range was sampled and analyzed for potential metal contaminants. Samples from the investigation contained lead and other metals at concentrations below the residential PRGs.

- All PCB- containing transformers were retrofitted with non-PCB oil or were removed from IA-A1 Clean Parcels at MINS and replaced with dry transformers or replaced with oil-containing transformers with non-detectable concentrations of PCB. No PCBs exceeding the residential cleanup level of 1.0 mg/kg remain in soil at any locations within IA-A1 Clean Parcels. Sampling for potential PCB contamination occurred at 24 areas within IA-A1 Clean Parcels with contamination being detected and remediated at three of these sites. At one of the sites, PCBs beneath a transformer could not be easily removed and these PCBs were encapsulated inside Building 577. This does not constitute a release of hazardous substance pursuant to Chapter 6.8 of the Health and Safety Code. The no further action decision for IA-A1 Clean Parcels is predicated on the assumption that, during demolition of Building 577, PCBs will not be released to the environment and that PCB

contaminated materials will be managed and disposed in accordance with applicable federal, states and local regulations.

- All potential radiological concerns within IA-A1 Clean Parcels have been subjected to detailed investigation in either the G-RAM Program or the NNPP program. At all locations where release of radioactive materials has occurred and been detected, cleanup has been implemented and radioactivity in all areas within IA-A1 Clean Parcels has been reduced to levels that are consistent with naturally occurring background levels in the area.

- Two USTs were removed from IA-A1 Clean Parcels and one suspect underground tank (Building 655) has not been located although several investigations have attempted to locate the suspect tank. At the two tanks that were removed, the levels of residual contamination are of no significant impact, and the tanks meet the low-risk criteria for closure as identified in the San Francisco Bay RWQCB closure letters. There are no remaining concerns about above ground storage tanks (ASTs) at IA-A1 Clean Parcels.

- Storm sewers and pump stations within IA-A1 Clean Parcels have been shown through sampling and analysis to have not caused significant levels of contamination of soil or groundwater in the area, and to not represent a significant risk to human health or the environment.

- Asbestos-containing materials exist in buildings at IA-A1 Clean Parcels at MINS. This asbestos-containing material currently poses no human health or environmental problems; however, if the asbestos-containing material is not managed in compliance with the site operations and maintenance plan, and applicable local, state, and Federal laws and regulations, it may become a hazard. The no-further action decision is predicated on the assumption that during building demolition, ACMs will not be released to the environment and that ACMs will be managed and disposed in accordance with applicable federal, states and local regulations.

- Except for arsenic in soil within normal ambient levels, this decision will not result in released hazardous substances remaining on site above health-based cleanup levels.

8.0 NON-BINDING PRELIMINARY ALLOCATION OF FINANCIAL RESPONSIBILITY

The subject of the no further action RAP, IA-A1 Clean Parcels, Mare Island Naval Shipyard, Vallejo, California, is owned by the U.S. Department of the Navy. The U.S. Department of the Navy is 100 percent responsible for the investigation and cleanup activities solely related to IA-A1 Clean Parcels of MINS past and present practices. The U.S. Department of the Navy is not, however, responsible for contamination that has moved onto the IA-A1 Clean Parcels at MINS facility via the groundwater from non-Navy sources off MINS property.

9.0 ONGOING MONITORING REQUIREMENTS

Future monitoring is not required at IA-A1 Clean Parcels at MINS. However, there are several immediately adjacent parcels that are the subject of ongoing remediation and monitoring requirements. Because any investigation cannot guarantee that all areas of contamination have been located and remediated, care should be exercised for all subsurface activities. During all building demolition and removal activities compliance with applicable disposal, and health and safety regulations is required.

10.0 COMMUNITY PARTICIPATION

A public meeting to discuss the draft Remedial Action Plan was held on May 25, 2000. A transcript of the public meeting is included with this final Remedial Action Plan as Appendix C. A responsiveness summary to public comments received is also included as Appendix D.

11.0 DECLARATION/STATUTORY DETERMINATION

The DTSC has determined that the IA-A1 Clean Parcels at MINS does not represent a significant risk to human health or the environment, and that no further action is required pursuant to Chapter 6.8 of the Health and Safety Code. This "no further action" decision is in compliance with federal and state requirements that are legally applicable or relevant and appropriate to closure of the site. The no further action decision is a permanent solution that allows unrestricted use and development of the subject property.

Anthony J. Landis

6-29-00

Anthony J. Landis, P.E.
Chief of Operations, Office of Military Facilities
California Environmental Protection Agency
Department of Toxic Substances Control

Date

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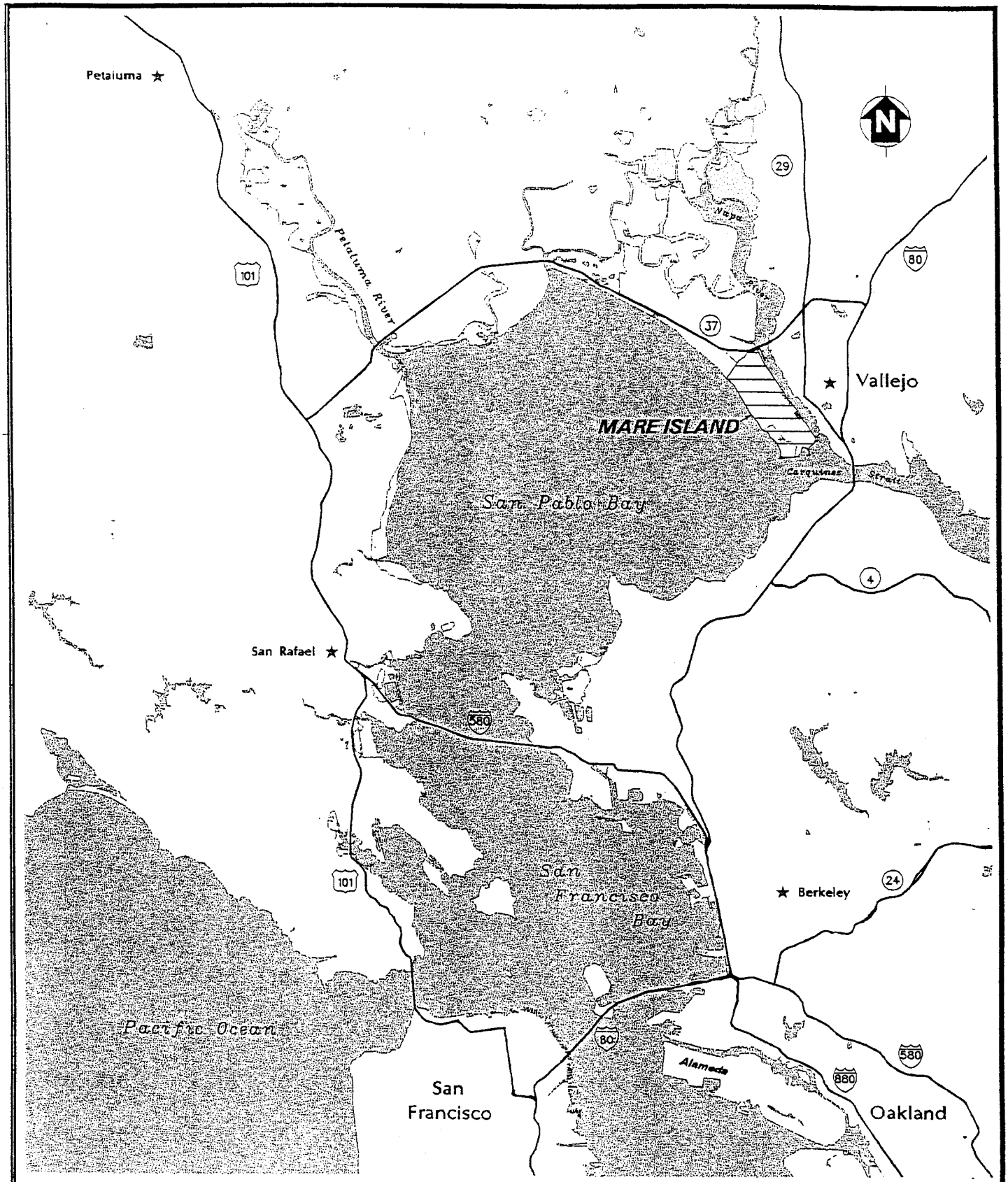
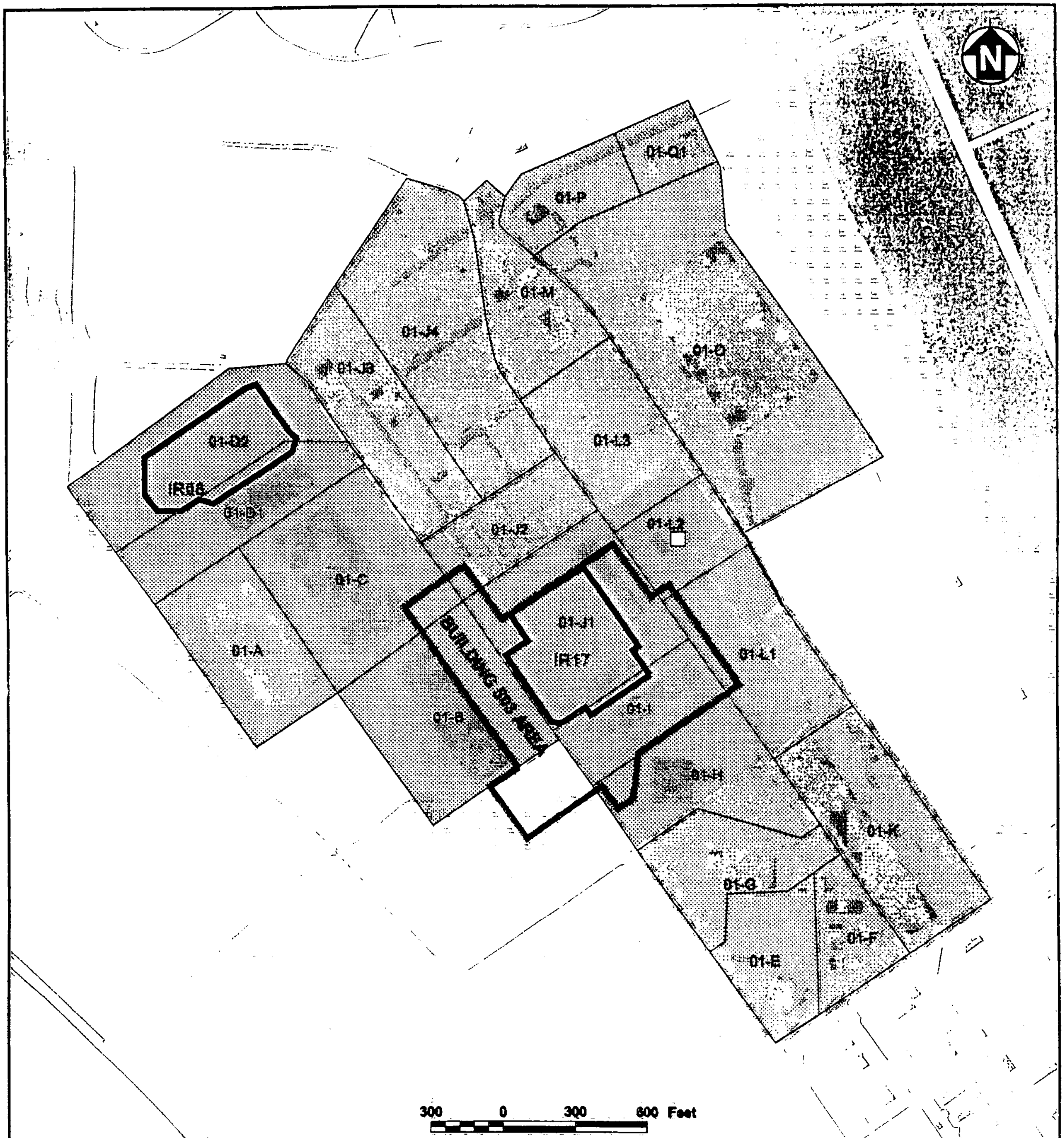
FIGURES

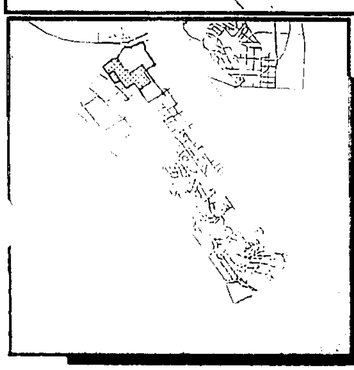


FORMER NORTH BUILDING WAYS AREA
REMEDIAL INVESTIGATION
MARE ISLAND, CALIFORNIA

FIGURE 1

MARE ISLAND LOCATION MAP





Tetra Tech EM Inc.

EBS PARCELS
UST 993 (4)
BUILDING 503 AREA
IR SITES
TRANSFER STATUS
Not Transferable (65 acres)
Transferable - Delayed (7 acres)
Transferable (97 acres)

INVESTIGATION AREA A1
MARE ISLAND, CALIFORNIA

FIGURE 2

NEGOTIATED TRANSFERABLE PROPERTY

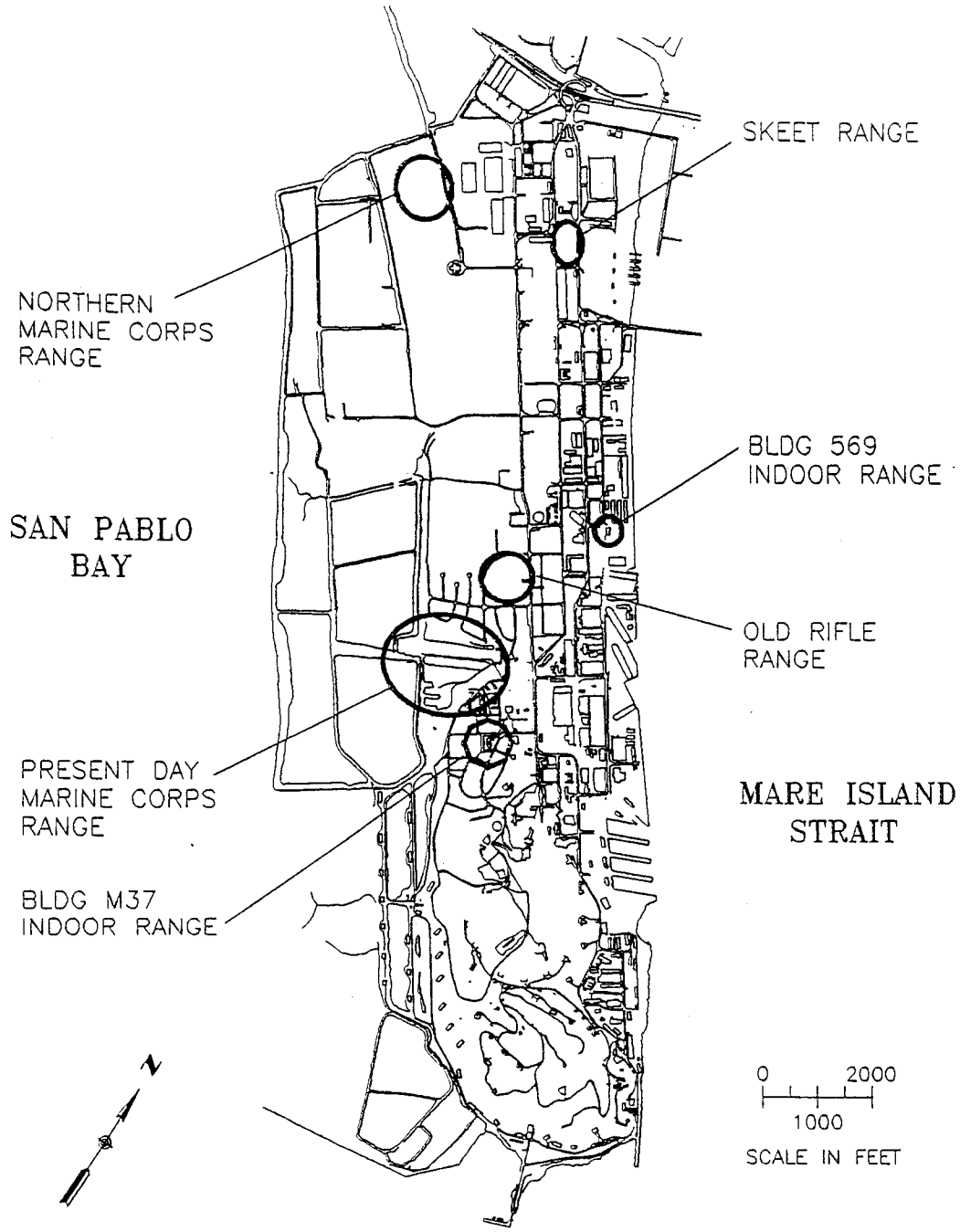


FIGURE 3 – SMALL ARMS RANGES

TABLES

Table 4-1

Buildings and Potential Environmental Concerns at A1-Clean parcels and adjacent parcels

Building # within Area 1	Parcel #	Within A-1 Clean parcels (Y/N/partial)	Description	Misc. Info	Potential Environmental Concerns
499	01-I	No	Storage-Hazardous Material	1938-1960 storage for paint factory	PCB Transformers
503	01-J1	No	Naval Reserve Training Center	1940 Paint Factory	Documented Releases, Co-located with IR 17.
517	01-J1	No	Electrical Substation	1941 as electrical substation.	PCB Transformers
547	01-J4	Yes	Pumping Station-Storm sewer	1941a as pumping station.	
571	01-K	Yes	Storage/Shop	1942 Material Storage, 137,408 sq. ft.	PCB Transformers, Hazmat & Waste Accumulation Area, G-RAM
573	01-K	Yes	Maintenance Shed	1990, Support shed	PCB Transformer
577	01-K	Yes	Electrical Substation	1942, Compressor plant for Bldg 571 operations	PCB Transformers. Hazmat storage, USTs
601	01-J1	No	Paint and Oil warehouse	1942 storage facility	PCB Transformer, Hazmat storage
617	01-J3	Yes	Exp Ord Admin	1942 as BEQ for the Submarine Base and Training facility	PCB Transformers, Hazmat storage
621	01-J3	Yes	Barracks	1942 as barracks, 19,290 sq.ft.	PCB Transformer
625	01-A	No	Navalex Test Facility	1989 steel/concrete building, 980 sq.ft.	PCB Transformer, Asbestos
627	01-C	No	Offices, Ex Navalex Work area	1943 as ordnance warehouse, 1975 converted to torpedo repair, 1980 converted to Sonar Array Repair facility and offices. 274, 349 sq.ft.	PCB Transformers, SWMU-123, NNPP, G-Ram, Area of potential Rad release, Asbestos
629	01-D1	No	Storage/Shop Area	1942 as heavy material storehouse. 63,500 sq.ft.	IR-08, SWMU-28, PCB Transformers, Battery Storage Area, Hazmat storage.
641	01-O	Yes	North Fire Station	1941 Fire station. 6,554 sq.ft.	
653	01-J4	Yes	Pump House	1943 as barracks pump house.	DOM 1 (Group II/III site), PCB Transformer
655	01-O	Yes	Warehouse-DRMO	1942 as Submarine Spare parts building (large warehouse). 1973 converted to DRMO	PCB Transformers, SWMU-124, G-Ram, USTs
663	01-H	Partial	CATS repeater facility	1993 constructed as Consolidated Area Telephone System (CATS) Repeater Facility-North. 625 sq.ft.	
673	01-M	Yes	Warehouse	1942 as gas cylinder storage. 1970 converted to warehouse.	PCB Transformers

Table 4-1

Buildings and Potential Environmental Concerns at A1-Clean parcels and adjacent parcels

Building # within Area 1	Parcel #	Within A-1 Clean parcels (Y/N/partial)	Description	Misc. Info	Potential Environmental Concerns
751	01-A	No	Navalex Warehouse	1945 as large warehouse (233,070 sq.ft.) for electronics, radium equipment, and radioactive materials storage. 1977 converted to offices and electronic equipment storage.	Asbestos, Rad Materials Storage, SWMU-3, SWMU-108, G-Ram, PCB Transformer
755	01-M	Yes	Training Facility	1945 as fleet training facility. 56,759 sq.ft. used as materials storage, offices and training facility.	PCB Transformer, Hazmat storage, G-Ram
759	01-B	No	Storage/Shop	1945 as Heavy Material storehouse.	PCB Transformers, Hazardous waste accumulation area, NNPP, G-Ram, Suspect UST
777	01-J3	Yes	Electrical Substation	1985 as North Electric Station	PCB Transformers
791	01-Q1	Yes	Offices-Training	1946 as Reserve Fleet Prefabrication Warehouse. Storage warehouse.	PCB Transformers, Hazmat storage, G-Ram
793	01-Q1	Yes	Offices-Training	1946 as Reserve Fleet Warehouse. 1975 converted to fire extinguishing storage area. 1989 converted to classrooms.	G-Ram
797	01-Q2	No	Boiler & SW Pumphouse	1946 to provide berthing, steam, and air to stationed ships.	ASTs-Removed
799	01-Q2	No	Elect Dist Station & PWC Workarea	1948 to provide electrical power to stationed ships.	
805	01-O	Yes	Transformer Substation	1942 as transformer station.	PCB Transformer
825	01-Q2	No	Boathouse	Early 1940s as Boathouse to support stationed ships. Later used as clubhouse, storage area. 2,375 sq.ft.	
857	01-L1	Partial	Sewer Pump Station	1959 as sewer pump station (DOM-2)	DOM-2 (Group II/III), PCB Transformers
878	01-J1	No	Sewer Pump Station	1953 as small corrugated sewer pumphouse	
897	01-G	Yes	Navy Exchange	1971 as Navy Exchange. 34,800 sq.ft. warehouse.	PCB Transformers, SWMU-108, G-Ram.
959	01-M	Yes	Sentry House-north Gate	1967 as sentry house.	
989	01-P	Yes	Computer Bldg. Navelex	1972 as Navalex computer building. 5,415 sq.ft.	PCB Transformers, Hazmat storage

Table 4-1

Buildings and Potential Environmental Concerns at A1-Clean parcels and adjacent parcels

Building # within Area 1	Parcel #	Within A-1 Clean parcels (Y/N/partial)	Description	Misc. Info	Potential Environmental Concerns
991	01-E	Yes	Enlisted Mens Club	1974 as Enlisted Mens club. 14,972 sq.ft. later converted to offices.	PCB Transformers
993	01-L2	Small partial	Service Station	1975 as service station. 3 fuel tanks and one waste oil tank.	PCB Transformers, Haz Waste storage, USTs, Small Spills, SWMU-86, SWMU-33.
995	01-F	Yes	Barracks	1979 as barracks.	
997	01-F	Yes	Barracks	1979 as barracks.	
999	01-F	Yes	Barracks-Core Bldg.	1979 as office and recreation center. 5,600 sq.ft. Fuel oil tank.	PCB Transformers, USTs.
1001	01-H	Partial	Commissary	1981 as commissary. 32,870 sq.ft.	PCB Transformers
1013	01-F	Yes	Barracks	1985 as barracks.	PCB Transformers
1015	01-F	Yes	Barracks	1985 as barracks.	
1017	01-J4	Yes	Dugout	1985 as baseball field dugout.	PCB Transformers
1019	01-J4	Yes	Dugout	1985 as baseball field dugout.	
1021	01-J4	Yes	Dugout	1985 as baseball field dugout.	PCB Transformers
1023	01-J4	Yes	Dugout	1985 as baseball field dugout.	
1025	01-J4	Yes	Latrine	1987 as latrine for Scheyder Field.	
1325	01-O	Yes	Restrooms	1985 as restrooms.	
AA7	01-M	Yes	Basketball Court at Bldg 755	1945 as basketball court.	
AA8	01-M	Yes	Tennis Court at Bldg 755	1944 as tennis courts.	
AA11	01-O	Yes	Picnic Grounds and Ballfield	1962 as picnic grounds.	
AA16	01-J4	Yes	Jacobsen Field	1983 as baseball field.	
AA17	01-J4	Yes	Scheyder Field	1944 as baseball field.	
M156	01-O	Yes	Ballfields-Northgate	1970 as gate to baseball fields.	
Former Northern Marine Rifle Range	01-A, 01-C, 01-D1, 01-D2, 01-J3, 01-J4.	Partial		Former Marine Rifle Range extends form near Building 755 to backstops located in marshlands west of A1-Clean parcels.	Investigated under UXO program, Lead, Copper and Zinc from bullets.

Table 5-1
Resolution of Potential Environmental Concerns at A1-Clean parcels and adjacent parcels

Building # within Area 1	Parcel #	Within A-1 Clean parcels (Y/N/partial)	Description	Potential Environmental Concerns	Resolution of Environmental Concerns
499	01-I	No	Storage-Hazardous Material	PCB Transformers	This site is not within A1-Clean parcels. The transformer area was tested and no significant contamination was detected (1.0 ppm max). Visual inspection of hazardous materials storage area showed no evidence of significant releases to the environment.
503	01-J1	No	Naval Reserve Training Center	Documented Releases, Co-located with IR-17.	This site is not within A1-Clean parcels. Site has ongoing soil and groundwater contamination concerns. Groundwater Tech Memo (TTEMI, 2000) indicates contaminants will not migrate to within 200ft. of A1-Clean parcels in five years.
517	01-J1	No	Electrical Substation	PCB Transformers	This site is not within A1-clean parcels. Transformers inside building were tested with no significant contamination detected (0.2 ppm max).
547	01-J4	Yes	Pumping Station-Storm sewer		There were no significant potential environmental concerns identified for this building.
571	01-K	Yes	Storage/Shop	PCB Transformers, Hazmat & Waste Accumulation Area, G-RAM	PCB transformer (inside building) was remediated with final PCB concentration of 1.0 ppm around transformer. PCBs encapsulated beneath active transformer. Encapsulated PCBS do not currently represent a significant health risk, but must be properly managed during building demolition. Visual inspections of hazardous materials and waste storage areas showed no signs of significant release to the environment. G-Ram and NNPP surveys and abatement conducted, completed and consurred by regulators.
573	01-K	Yes	Maintenance Shed	PCB Transformer	PCB Transformer tested with results being non-detect.
577	01-K	Yes	Electrical Substation	PCB Transformers. Hazmat storage, UST	The PCB transformer (inside building) was remediated with the final PCB concentration being 2.0 ppm after abatement. PCBs do not currently represent a significant health risk, but must be properly managed during building demolition. Hazmat storage area was visually inspected with no evidence of significant releases to the environment. The UST was removed with regulatory agency concurrance of "no further action" in letter dated 6/5/98.
601	01-J1	No	Paint and Oil warehouse	PCB Transformer, Hazmat storage	This site is not within A1-Clean parcels. PCB transformer was tested with 0.03 ppm being the max detected. Visual inspection of hazardous materials storage area showed no evidence of significant releases to the environment.
617	01-J3	Yes	Exp Ord Admin	PCB Transformers, Hazmat storage	PCB Transformer was tested and no significant contamination was detected (0.02 ppm max). Visual inspection of hazardous materials storage area showed no evidence of significant releases to the environment.
621	01-J3	Yes	Barracks	PCB Transformer	PCB Transformer was tested and no significant contamination was detected (0.04 ppm max).
625	01-A	No	Navalex Test Facility	PCB Transformer, Asbestos	This site is not within A1-Clean parcels. PCB Transformer was tested and no significant contamination was detected (all results non-detect). Asbestos survey was conducted, friable asbestos was abated.
627	01-C	No	Offices, Ex Navalex Work area	PCB Transformers, SWMU-123, NNPP, G-Ram, Area of potential Rad release, Asbestos	This site is not within A1-Clean parcels. PCB abatement occurred in the area. There is low risk of any contaminants migrating from this site to A1-Clean parcels.
629	01-D1	No	Storage/Shop Area	IR-08, SWMU-28, PCB Transformers, Battery Storage Area, Hazmat storage.	This site is not within A1-Clean parcels. IR08 has been the subject of extensive soil removal action. There is low risk of any residual contamination migrating from this site to A1-Clean parcels.
641	01-O	Yes	North Fire Station		No significant environmental concerns identified.

Table 3-1

Resolution of Potential Environmental Concerns at A1-Clean parcels and adjacent parcels

Building # within Area 1	Parcel #	Within A-1 Clean parcels (Y/N/partial)	Description	Potential Environmental Concerns	Resolution of Environmental Concerns
653	01-J4	Yes	Pump House	DOM 1 (Group II/III site), PCB Transformer	The PCB transformer area was tested with the results being "non-detect." DOM-1 was tested and no significant contamination was detected. DTSC concurred with the Navy's no-further action recommendation in its letter dated May 4, 2000.
655	01-O	Yes	Warehouse-DRMO	PCB Transformers, SWMU-124, G-Ram, USTs	Five different transformer areas were sampled inside and outside of the large warehouse. Maximum concentrations detected (0.2 ppm outside, 0.9 ppm inside) are below cleanup levels. SWMU-124 was identified as a potential radium area. This area was evaluated and mitigated as necessary in the NNPP and G-Ram programs which received regulatory concurrance of no-further action October 1996, and March 1997 respectively. The suspect UST was not located. Residual petroleum-only contamination is being evaluated by the RWQCB.
663	01-H	Partial	CATS repeater facility		No significant environmental concerns identified.
673	01-M	Yes	Warehouse	PCB Transformers	The PCB transformer areas were tested and the maximum PCB concentration detected was 0.4 ppm inside the building.
751	01-A	No	Navalex Warehouse	PCB Transformers, Asbestos, SWMU 3, SWMU-108, G-Ram.	This site is not within A1-Clean parcels. PCBs, Asbestos, and radiological concerns were manged under the appropriate programs, with very low risk of residual contamination migrating from these sites to A1-Clean parcels.
755	01-M	Yes	Training Facility	PCB Transformer, Hazmat storage, G-Ram	The PCB transformer area was tested and a removal action was implemented. Residual PCBs (0.3 ppm) remained inside the building after abatement but are below cleanup levels. The mazardous materials storage area was visually inspected with no evidence of significant release of hazardous materials to the environment. Potential radiological concerns were addressed in the G-Ram program which has regulatory agency concurrance that no further action is required.
759	01-B	No	Storage/Shop	PCB Transformers, Hazardous waste accumulation area, NNPP, G-Ram, Suspect UST	This site is not within A1-Clean parcels and there is very low risk that contaminants could migrate from this site to A1-Clean parcels. PCBs were tested with all samples being below cleanup levels (0.3 ppm max). No visual evidence of release of significant quantities of contaminants from hazardous materials storage area. G-Ram area has regulatory concurrance for no further action.
777	01-J3	Yes	Electrical Substation	PCB Transformers	The transformers in this area were tested and the results (0.09 ppm max) were below the cleanup level of 1.0 ppm.
791	01-Q1	Yes	Offices-Training	PCB Transformers, Hazmat storage, G-Ram	The PCB transformers were tested with both results (0.04 ppm max) being below the cleanup level of 1.0 ppm.
793	01-Q1	Yes	Offices-Training	G-Ram	Potential radiological concerns were addressed in the G-Ram program which has regulatory agency concurrance that no further action is required.
797	01-Q2	No	Boiler & SW Pumphouse	ASTs-Removed	This site is not within A1-Clean parcels. ASTs at the site were previously removed. No other potentially significant environmental concerns were identified.
799	01-Q2	No	Elect Dist Station & PWC Workarea		This site is not within A1-Clean parcels. No significant environmental concerns identified.
805	01-O	Yes	Transformer Substation	PCB Transformer	The transformers in this area were tested and the results (0.6 ppm max) were below the cleanup level of 1.0 ppm.
825	01-Q2	No	Boathouse		This site is not within A1-Clean parcels. No significant environmental concerns identified.

Table 5-1

Resolution of Potential Environmental Concerns at A1-Clean parcels and adjacent parcels

Building # within Area 1	Parcel #	Within A-1 Clean parcels (Y/N/partial)	Description	Potential Environmental Concerns	Resolution of Environmental Concerns
857	01-L1	Partial	Sewer Pump Station	DOM-2 (Group II/III), PCB Transformers	The transformers in this area were tested and the results (0.04 ppm max) were below the cleanup level of 1.0 ppm. DOM-2 was the subject of several subsurface investigations, and received regulatory concurrance of nofurther action from DTSC on May5, 2000.
878	01-J1	No	Sewer Pump Station		No significant environmental concerns identified.
897	01-G	Yes	Navy Exchange	PCB Transformers, SWMU-108, G-Ram.	The transformers in this area were tested and the results (0.05 ppm max) were below the cleanup level of 1.0 ppm. SWMU-108 and G-Ram concerns were addressed as part of the radiological program which received regulatory concurrance of no-further action in October, 1996.
959	01-M	Yes	Sentry House-north Gate		No significant environmental concerns identified.
989	01-P	Yes	Computer Bldg. Navelex	PCB Transformers, Hazmat storage	The transformers in this area were tested and the results (0.08 ppm max) were below the cleanup level of 1.0 ppm. The hazardous materials stroage area was visually inspected with no evidence of significant releases of hazardous materials to the environment.
991	01-E	Yes	Enlisted Mens Club	PCB Transformers	The transformers in this area were tested and the results (0.6 ppm max) were below the cleanup level of 1.0 ppm.
993	01-L2	Small partial	Service Station	PCB Transformers, Haz Waste storage, USTs, SWMU-86, SWMU-33.	Only a small portion of this site is within A1-Clean parcels. This transferable portion is along Railroad avenue and is at least 200 feet from the area of known contamination. The transformers in this area were tested and the results (0.07 ppm max) were below the cleanup level of 1.0 ppm. SWMU-86, and SWMU-33 (Group II/III sites), were evaluated as part of the radiological program and received regulatory concurrance of no-further action in October 1996. Three fuel USTs were removed with no evidence of significant leakage. A waste oil UST was also removed which displayed evidence of leakage. The Navy has proposed additional remediation for this former waste oil tank. There is a low risk that contaminants from this site could migrate to A1-Clean parcels.
995	01-F	Yes	Barracks		No significant environmental concerns identified.
997	01-F	Yes	Barracks		No significant environmental concerns identified.
999	01-F	Yes	Barracks-Core Bldg.	PCB Transformers, USTs.	The transformer in this area were tested and the results (non-detect) were below the cleanup level of 1.0 ppm. A 6,000-gallon diesel/fuel oil tank was removed and received regulatory concurrance of no-further action in a letter from the RWQCB dated 12/7/95.
1001	01-H	Partial	Commissary	PCB Transformers	Only a portion of this subparcel is within A1-Clean parcels. The transformers in this area were tested and the results (0.02 ppm max) were below the cleanup level of 1.0 ppm.
1013	01-F	Yes	Barracks	PCB Transformers	The transformers in this area were tested and the results (0.02 ppm max) were below the cleanup level of 1.0 ppm.
1015	01-F	Yes	Barracks		No significant environmental concerns identified.
1017	01-J4	Yes	Dugout	PCB Transformers	The transformers in this area were tested and the results (0.03 ppm max) were below the cleanup level of 1.0 ppm.
1019	01-J4	Yes	Dugout		No significant environmental concerns identified.
1021	01-J4	Yes	Dugout	PCB Transformers	The transformers in this area were tested and the results (0.04 ppm max) were below the cleanup level of 1.0 ppm.
1023	01-J4	Yes	Dugout		No significant environmental concerns identified.
1025	01-J4	Yes	Latrine		No significant environmental concerns identified.
1325	01-O	Yes	Restrooms		No significant environmental concerns identified.

Table 5-1

Resolution of Potential Environmental Concerns at A1-Clean parcels and adjacent parcels

Building # within Area 1	Parcel #	Within A-1 Clean parcels (Y/N/partial)	Description	Potential Environmental Concerns	Resolution of Environmental Concerns
AA7	01-M	Yes	Basketball Court at Bldg 755		No significant environmental concerns identified.
AA8	01-M	Yes	Tennis Court at Bldg 755		No significant environmental concerns identified.
AA11	01-O	Yes	Picnic Grounds and Ballfield		No significant environmental concerns identified.
AA16	01-J4	Yes	Jacobsen Field		No significant environmental concerns identified.
AA17	01-J4	Yes	Scheyder Field		No significant environmental concerns identified.
M156	01-O	Yes	Ballfields-Northgate		No significant environmental concerns identified.
Former Northern Marine Rifle Range	01-A, 01-C, 01-D1, 01-D2, 01 J3, 01-J4.	Partial	Rifle range that started near Building 755 with the target butts being located to the west of A1-Clean parcels.	Potential UXO, metals form bullets and bullet fragments.	Area was screened for UXO, and no UXO or UXO -scrap was discovered. Sample analyses for metals did not detect any of the three metals above residential cleanup levels.

APPENDIX A

LEGAL DESCRIPTION OF IA-A1 CLEAN PARCELS AT MINS

Note: The area known as Investigation Area A1 Clean Parcels is defined as the following:

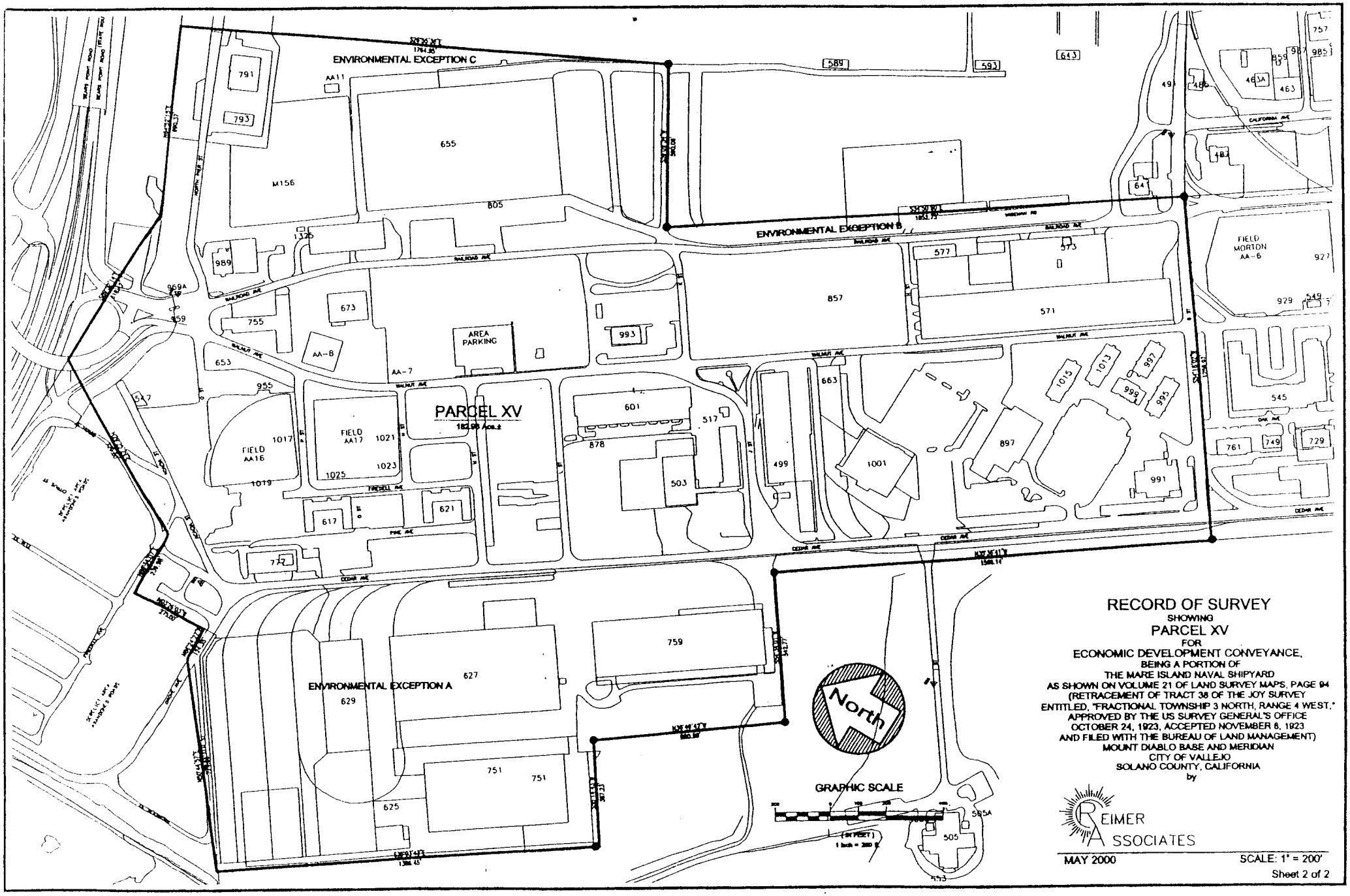
Transfer Parcel XV minus Exclusion Area A, Exclusion Area B, Exclusion Area C, and Exclusion Area D.

LEGAL DESCRIPTION
TRANSFER PARCEL XV

ALL THAT REAL PROPERTY SITUATED IN THE CITY OF VALLEJO, COUNTY OF SOLANO, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

COMMENCING AT A USC & GS FIRST ORDER TRIANGULATION POINT, MARKED BY A STANDARD BRASS DISK STAMPED " MARE ID SE 1852 1932" AS SHOWN AND DELINEATED ON THAT CERTAIN RECORD OF SURVEY FILED FOR RECORD IN BOOK 21 L.S.M. AT PAGES 94 THROUGH 98 INCLUSIVE, SOLANO COUNTY RECORDS, FROM WHICH A 2 1/2" ALUMINUM DISK STAMPED " MARE ISLAND CONTROL POINT, McGILL-MARTIN-SELF, INC. ORINDA, CA., 3 " BEARS NORTH 35 DEGREES 54 MINUTES 10 SECONDS WEST 17,225.54 FEET;
THENCE FROM SAID **POINT OF BEGINNING**, NORTH 39 DEGREES 21 MINUTES 14 SECONDS WEST 17,282.52 FEET TO THE **TRUE POINT OF BEGINNING**;
THENCE FROM SAID **TRUE POINT OF BEGINNING**, SOUTH 35°03'43" EAST, A DISTANCE OF 1386.45 FEET;
THENCE NORTH 55°14'43" EAST, A DISTANCE OF 387.23 FEET;
THENCE SOUTH 36°49'42" EAST, A DISTANCE OF 680.99 FEET;
THENCE NORTH 54°34'01" EAST, A DISTANCE OF 542.77 FEET;
THENCE NORTH 35°36'41" EAST, A DISTANCE OF 1566.14 FEET;
THENCE NORTH 54°18'02" EAST, A DISTANCE OF 1259.97 FEET;
THENCE NORTH 34°50'50" WEST, A DISTANCE OF 1852.73 FEET;
THENCE NORTH 59°09'34" EAST, A DISTANCE OF 590.06 FEET;
THENCE NORTH 26°55'36" WEST, A DISTANCE OF 1764.95 FEET;
THENCE SOUTH 64°52'15" WEST, A DISTANCE OF 690.37 FEET;
THENCE NORTH 89°52'14" WEST, A DISTANCE OF 618.42 FEET;
THENCE SOUTH 29°25'27" WEST, A DISTANCE OF 729.60 FEET;
THENCE SOUTH 86°34'07" WEST, A DISTANCE OF 239.98 FEET;
THENCE SOUTH 03°26'03" EAST, A DISTANCE OF 275.00 FEET;
THENCE SOUTH 86°24'27" WEST, A DISTANCE OF 124.35 FEET;
THENCE SOUTH 50°44'57" WEST, A DISTANCE OF 774.66 FEET TO THE POINT OF BEGINNING. CONTAINING 182.958 ACRES, MORE OR LESS.

EXP 9-30-2000



RECORD OF SURVEY

SHOWING

PARCEL XV

FOR

ECONOMIC DEVELOPMENT CONVEYANCE,

BEING A PORTION OF

THE MARE ISLAND NAVAL SHIPYARD

AS SHOWN ON VOLUME 21 OF LAND SURVEY MAPS, PAGE 94

(RETRACEMENT OF TRACT 38 OF THE JOY SURVEY

ENTITLED, "FRACTIONAL TOWNSHIP 3 NORTH, RANGE 4 WEST,"

APPROVED BY THE US SURVEY GENERAL'S OFFICE

OCTOBER 24, 1923, ACCEPTED NOVEMBER 8, 1923

AND FILED WITH THE BUREAU OF LAND MANAGEMENT)

MOUNT DIABLO BASE AND MERIDIAN

CITY OF VALLEJO

SOLANO COUNTY, CALIFORNIA

by

REIMER ASSOCIATES

MAY 2000

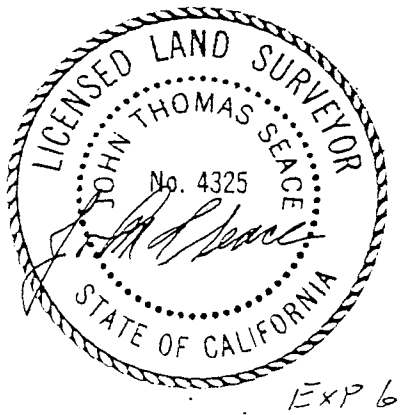
SCALE: 1" = 200'

Sheet 2 of 2

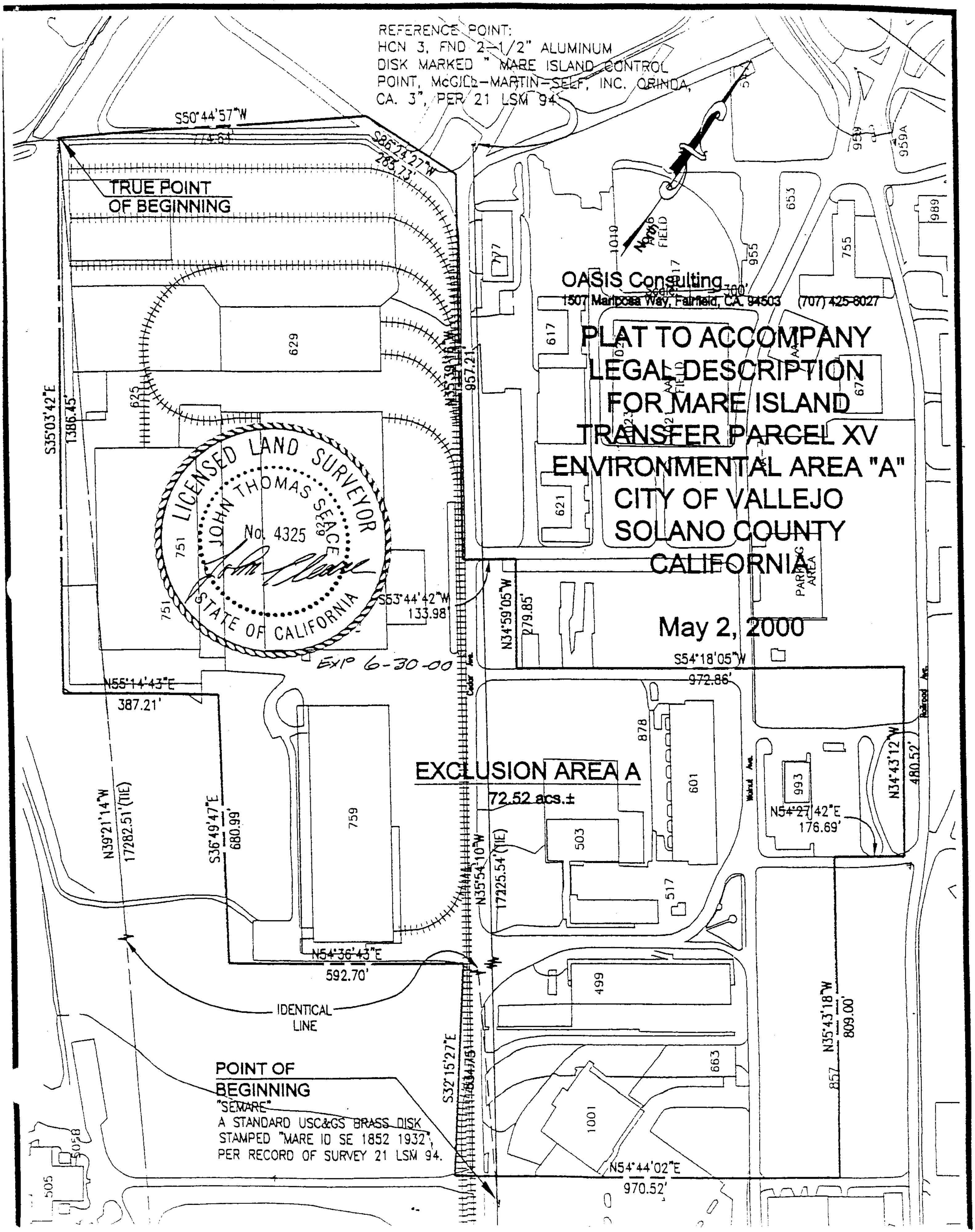
LEGAL DESCRIPTION
AREA-A

ALL THAT REAL PROPERTY SITUATED IN THE CITY OF VALLEJO, COUNTY OF SOLANO, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

COMMENCING AT A USC & GS FIRST ORDER TRIANGULATION POINT, MARKED BY A STANDARD BRASS DISK STAMPED " MARE ID SE 1852 1932" AS SHOWN AND DELINEATED ON THAT CERTAIN RECORD OF SURVEY FILED FOR RECORD IN BOOK 21 L.S.M. AT PAGES 94 THROUGH 98 INCLUSIVE, SOLANO COUNTY RECORDS, FROM WHICH A 2 1/2" ALUMINUM DISK STAMPED " MARE ISLAND CONTROL POINT, McGILL-MARTIN-SELF, INC. ORINDA, CA., 3 " BEARS NORTH 35 DEGREES 54 MINUTES 10 SECONDS WEST 17,225.54 FEET;
THENCE FROM SAID **POINT OF BEGINNING**, NORTH 39 DEGREES 21 MINUTES 14 SECONDS WEST 17,282.51 FEET TO THE **TRUE POINT OF BEGINNING**;
THENCE FROM SAID **TRUE POINT OF BEGINNING**, SOUTH 35°03'42" EAST, A DISTANCE OF 1386.45 FEET;
THENCE NORTH 55°14'43" EAST, A DISTANCE OF 387.21 FEET;
THENCE SOUTH 36°49'47" EAST, A DISTANCE OF 680.99 FEET;
THENCE NORTH 54°36'43" EAST, A DISTANCE OF 592.70 FEET;
THENCE SOUTH 32°15'27" EAST, A DISTANCE OF 534.75 FEET;
THENCE NORTH 54°44'02" EAST, A DISTANCE OF 970.52 FEET;
THENCE NORTH 35°43'18" WEST, A DISTANCE OF 809.00 FEET;
THENCE NORTH 54°27'42" EAST, A DISTANCE OF 176.69 FEET;
THENCE NORTH 34°43'12" WEST, A DISTANCE OF 480.52 FEET;
THENCE SOUTH 54°18'05" WEST, A DISTANCE OF 972.86 FEET;
THENCE NORTH 34°59'05" WEST, A DISTANCE OF 279.85 FEET;
THENCE SOUTH 53°44'42" WEST, A DISTANCE OF 133.98 FEET;
THENCE NORTH 35°39'16" WEST, A DISTANCE OF 957.21 FEET;
THENCE SOUTH 86°24'27" WEST, A DISTANCE OF 265.73 FEET;
THENCE SOUTH 50°44'57" WEST, A DISTANCE OF 774.64 FEET TO THE **TRUE POINT OF BEGINNING**. CONTAINING 72.515 ACRES, MORE OR LESS.



EXP 6-30-

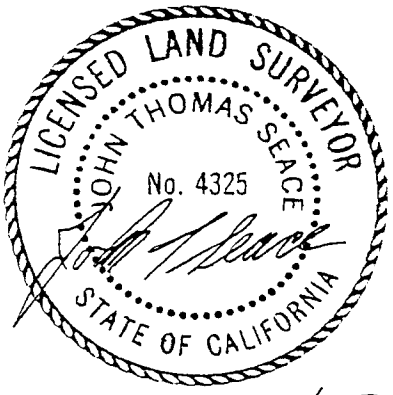


REFERENCE POINT:
HCN 3, FND 2-1/2" ALUMINUM DISK MARKED " MARE ISLAND CONTROL POINT, McGILL-MARTIN-SELF, INC. ORINDA, CA. 3", PER 21 LSM 94
OASIS Consulting
1507 Mariposa Way, Fairfield, CA 94503 (707) 425-8027
PLAT TO ACCOMPANY
LEGAL DESCRIPTION
FOR MARE ISLAND
TRANSFER PARCEL XV
ENVIRONMENTAL AREA "A"
CITY OF VALLEJO
SOLANO COUNTY
CALIFORNIA
May 2, 2000
TRUE POINT
OF BEGINNING
S50°44'57"W
774.54'
S86°24'27"W
263.73'
N35°39'16"W
957.21'
S35°03'42"E
1386.45'
LICENSED LAND SURVEYOR
JOHN THOMAS SEACE
No. 4325
STATE OF CALIFORNIA
EXP 6-30-00
S53°44'42"W
133.98'
N34°59'05"W
279.85'
S54°18'05"W
972.86'
N55°14'43"E
387.21'
EXCLUSION AREA A
72.52 acs.±
N39°21'14"W
17282.51' (TIE)
S36°49'47"E
680.99'
N35°54'10"W
17225.54' (TIE)
N34°43'12"W
480.52'
N54°27'42"E
176.69'
N54°36'43"E
592.70'
IDENTICAL
LINE
N35°43'18"W
809.00'
S32°15'27"E
POINT OF
BEGINNING
"SEMARE"
A STANDARD USC&GS BRASS DISK STAMPED "MARE ID SE 1852 1932", PER RECORD OF SURVEY 21 LSM 94.
N54°44'02"E
970.52'
Cedar Ave.
Walnut Ave.
Railroad Ave.
PARKING AREA
629
625
751
617
621
653
755
955
989
959
959A
1010
777
759
601
878
993
503
517
499
663
1001
857
505
505B

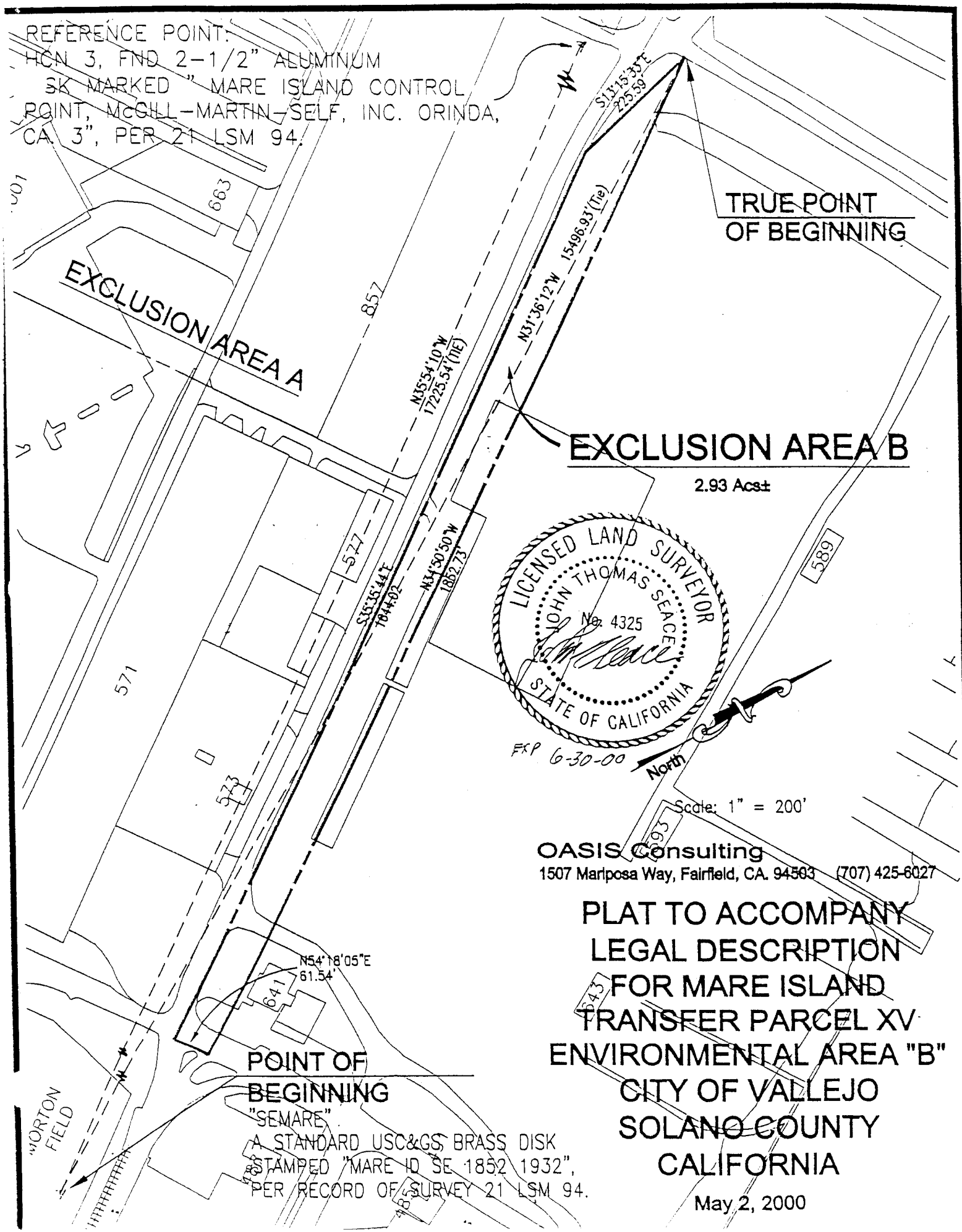
LEGAL DESCRIPTION
AREA-B

ALL THAT REAL PROPERTY SITUATED IN THE CITY OF VALLEJO, COUNTY OF SOLANO, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

COMMENCING AT A USC & GS FIRST ORDER TRIANGULATION POINT, MARKED BY A STANDARD BRASS DISK STAMPED " MARE ID SE 1852 1932" AS SHOWN AND DELINEATED ON THAT CERTAIN RECORD OF SURVEY FILED FOR RECORD IN BOOK 21 L.S.M. AT PAGES 94 THROUGH 98 INCLUSIVE, SOLANO COUNTY RECORDS, FROM WHICH A 2 1/2" ALUMINUM DISK STAMPED " MARE ISLAND CONTROL POINT, McGILL-MARTIN-SELF, INC. ORINDA, CA., 3 " BEARS NORTH 35 DEGREES 54 MINUTES 10 SECONDS WEST 17,225.54 FEET;
THENCE FROM SAID **POINT OF BEGINNING**, NORTH 31 DEGREES 36 MINUTES 12 SECONDS WEST 15,496.93 FEET TO THE **TRUE POINT OF BEGINNING**;
THENCE FROM SAID **TRUE POINT OF BEGINNING**, SOUTH 13°15'33" EAST, A DISTANCE OF 225.59 FEET;
THENCE SOUTH 35°35'44" EAST, A DISTANCE OF 1644.02 FEET;
THENCE NORTH 54°18'05" EAST, A DISTANCE OF 61.54 FEET;
THENCE NORTH 34°50'50" WEST, A DISTANCE OF 1852.73 FEET TO THE POINT OF BEGINNING. CONTAINING 2.926 ACRES, MORE OR LESS.



EXP 6-30-00



OASIS Consulting
1507 Mariposa Way, Fairfield, CA. 94533 (707) 425-6027

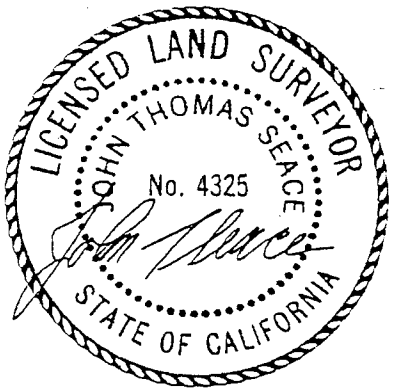
PLAT TO ACCOMPANY LEGAL DESCRIPTION FOR MARE ISLAND TRANSFER PARCEL XV ENVIRONMENTAL AREA "B" CITY OF VALLEJO SOLANO COUNTY CALIFORNIA

May 2, 2000

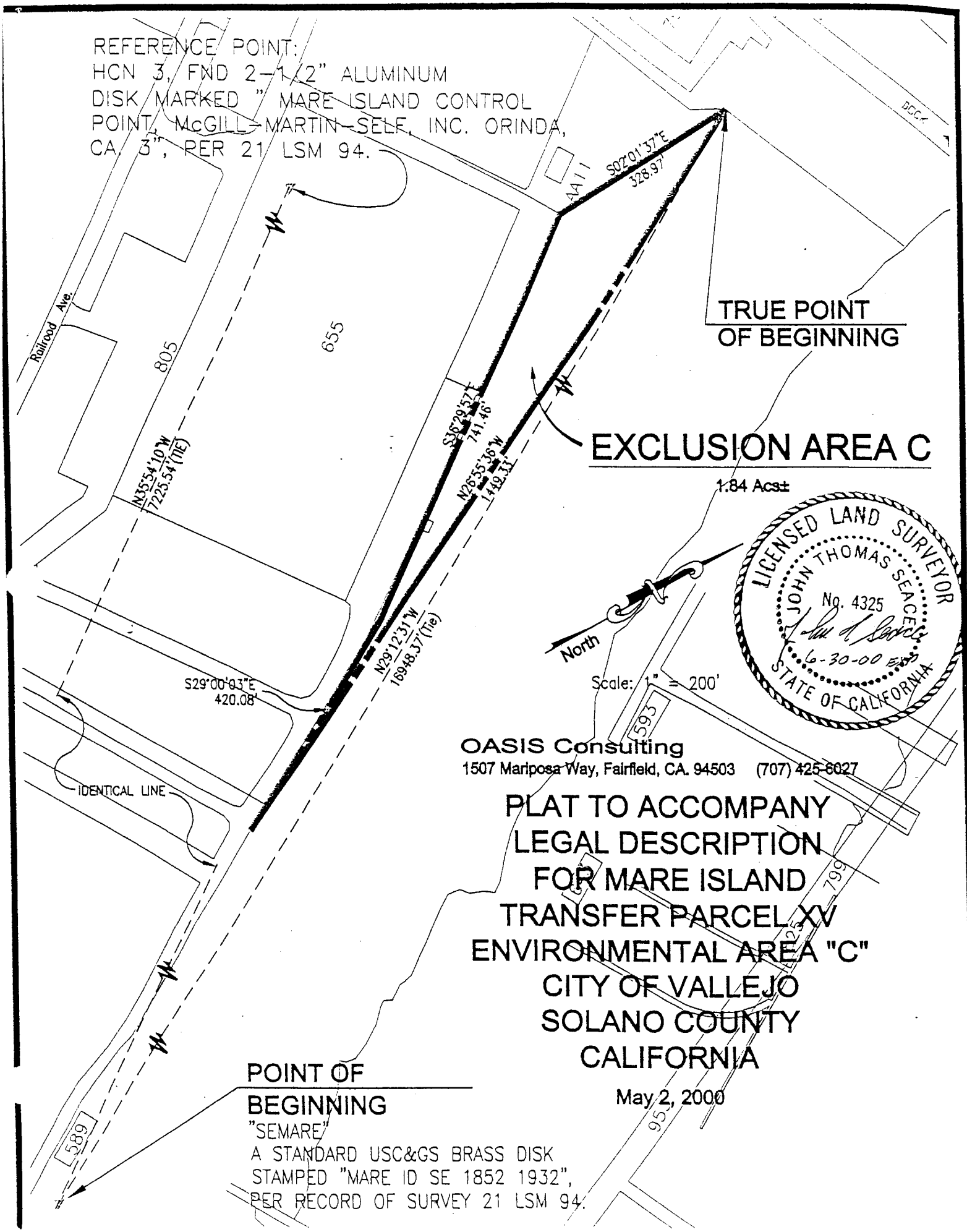
LEGAL DESCRIPTION
AREA-C

ALL THAT REAL PROPERTY SITUATED IN THE CITY OF VALLEJO, COUNTY OF SOLANO, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

COMMENCING AT A USC & GS FIRST ORDER TRIANGULATION POINT, MARKED BY A STANDARD BRASS DISK STAMPED " MARE ID SE 1852 1932" AS SHOWN AND DELINEATED ON THAT CERTAIN RECORD OF SURVEY FILED FOR RECORD IN BOOK 21 L.S.M. AT PAGES 94 THROUGH 98 INCLUSIVE, SOLANO COUNTY RECORDS, FROM WHICH A 2 1/2" ALUMINUM DISK STAMPED " MARE ISLAND CONTROL POINT, McGILL-MARTIN-SELF, INC. ORINDA, CA., 3 " BEARS NORTH 35 DEGREES 54 MINUTES 10 SECONDS WEST 17,225.54 FEET;
THENCE FROM SAID **POINT OF BEGINNING,** NORTH 29 DEGREES 12 MINUTES 31 SECONDS WEST 16,948.37 FEET TO THE **TRUE POINT OF BEGINNING;**
THENCE FROM SAID **TRUE POINT OF BEGINNING,**
THENCE SOUTH 02°01'37" EAST, A DISTANCE OF 328.97 FEET;
THENCE SOUTH 36°29'57" EAST, A DISTANCE OF 741.46 FEET;
THENCE SOUTH 29°00'03" EAST, A DISTANCE OF 420.08 FEET;
THENCE NORTH 26°55'36" WEST, A DISTANCE OF 1449.33 FEET TO THE POINT OF BEGINNING. CONTAINING 1.838 ACRES, MORE OR LESS.



Exp 6-30-00


REFERENCE POINT:
HCN 3, FND 2-1/2" ALUMINUM
DISK MARKED " MARE ISLAND CONTROL
POINT, McGILL-MARTIN-SELF, INC. ORINDA,
CA, 3", PER 21 LSM 94.
Railroad Ave.
805
655
AA11
S02°01'37"E
328.97'
TRUE POINT
OF BEGINNING
EXCLUSION AREA C
1.84 Acs±
S36°29'57"E
741.46'
N26°55'36"W
1449.31'
N29°12'31"W
16948.37'(Tie)
N35°54'10"W
7225.54'(TIE)
S29°00'03"E
420.08'
IDENTICAL LINE
North
Scale: 1" = 200'
593
589
799
95
LICENSED LAND SURVEYOR
JOHN THOMAS SEACER
No. 4325
6-30-00
STATE OF CALIFORNIA
OASIS Consulting
1507 Mariposa Way, Fairfield, CA. 94503 (707) 425-6027
PLAT TO ACCOMPANY
LEGAL DESCRIPTION
FOR MARE ISLAND
TRANSFER PARCEL XV
ENVIRONMENTAL AREA "C"
CITY OF VALLEJO
SOLANO COUNTY
CALIFORNIA
May 2, 2000
POINT OF
BEGINNING
"SEMARE"
A STANDARD USC&GS BRASS DISK
STAMPED "MARE ID SE 1852 1932",
PER RECORD OF SURVEY 21 LSM 94.

LEGAL DESCRIPTION
AREA- D

ALL THAT REAL PROPERTY SITUATED IN THE CITY OF VALLEJO, COUNTY OF SOLANO, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

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THENCE FROM SAID **POINT OF BEGINNING**, NORTH 31 DEGREES 36 MINUTES 12 SECONDS WEST 15,516.93 FEET TO THE **TRUE POINT OF BEGINNING;**
THENCE FROM SAID **TRUE POINT OF BEGINNING,** SOUTH $54^0$18'05" WEST, A DISTANCE OF 290.00 FEET;
THENCE SOUTH $34^0$50'50" EAST, A DISTANCE OF 410.00 FEET;
THENCE NORTH $54^0$18'05" EAST, A DISTANCE OF 290.00 FEET;
THENCE NORTH $34^0$50'50" WEST, A DISTANCE OF 410 FEET TO THE **TRUE POINT OF BEGINNING.**

APPENDIX B

PRELIMINARY NONBINDING ALLOCATION OF RESPONSIBILITY

Department of Toxic Substances Control

Edwin F. Lowry, Director
700 Heinz Avenue, Suite 200
Berkeley, California 94710-2721

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

PRELIMINARY NONBINDING ALLOCATION OF RESPONSIBILITY

Health and Safety Code (HSC) section 25356.1(e) requires the Department of Toxic Substances Control (DTSC) to prepare a preliminary nonbinding allocation of responsibility (the "NBAR") among all identifiable potentially responsible parties (PRPs). HSC section 25356.3(a) allows PRPs with an aggregate allocation in excess of 50% to convene an arbitration proceeding by submitting to binding arbitration before an arbitration panel. If PRPs with over 50% of the allocation convene arbitration, then any other PRP wishing to do so may also submit to binding arbitration.

The sole purpose of the NBAR is to establish which PRPs will have an aggregate allocation in excess of 50% and can therefore convene arbitration if they so choose. The NBAR, which is based on the evidence available to the DTSC, is not binding on anyone, including PRPs, DTSC, or the arbitration panel. If a panel is convened, its proceedings are de novo and do not constitute a review of the provisional allocation. The arbitration panel's allocation will be based on the panel's application of the criteria spelled out in HSC section 25356.3(c) to the evidence produced at the arbitration hearing. Once arbitration is convened, or waived, the NBAR has no further effect, in arbitration, litigation or any other proceeding, except that both the NBAR and the arbitration panel's allocation are admissible in a court of law, pursuant to HSC section 25356.7 for the sole purpose of showing the good faith of the parties who have discharged the arbitration panel's decision.

DTSC sets forth the following preliminary nonbinding allocation of responsibility for the Mare Island Naval Shipyard, Vallejo, Solano County:

The Department of the Navy is allocated 100% responsibility.

APPENDIX C

TRANSCRIPT OF PUBLIC MEETING

MARE ISLAND NAVAL SHIPYARD
RESTORATION ADVISORY BOARD (RAB) MEETING MINUTES
Held May 25, 2000

Welcome and Introductions:

The March 2000 meeting of the Restoration Advisory Board (RAB) was called to order at 7:05 p.m. by Myrna Hayes, Community Co-chair and representative of Save San Pablo Baylands. Thirteen (13) RAB members, twenty-four (24) guests and community members, two (2) RAB support and community relations staff from Gutierrez-Palmenberg, Inc. (GPI), and one (1) recorder were present. The following RAB members were in attendance:

- Ms. Myrna Hayes
- Mr. Jerry Dunaway
- Ms. Diana Krevsky
- Mr. Adam Chavez
- Mr. Rob Schonholtz
- Mr. Ken Barden
- Ms. Cynthia Marquez
- Mr. John Cerini
- Ms. Paula Tygielski
- Mr. Jerry Karr
- Mr. Ken Kloc
- Mr. Ken Browne
- Mr. Chip Gribble
- Mr. James O'Loughlin

Recorder: Ms. Kathy Langstaff

Ms. Myrna Hayes - Good evening. My name is Myrna Hayes, and I'm the community co-chair for the Restoration Advisory Board for Mare Island. And I congratulated all of us last month for being at this arduous task for six years, and that this is my six-year anniversary as the community co-chair, so you can boo or you can take my place.

(The RAB and community members introduced themselves.)

Public Meeting: Areas E and A1 Remedial Action Plans

Mr. Chip Gribble - Good evening. My name is Chip Gribble, the project manager for California Department of Toxic Substances Control, overseeing environmental restoration at Mare Island. I want to thank all of you for coming here tonight, and I am grateful for all your efforts to help insure that I and my agency do our job to protect public health and the environment.

This meeting tonight is a public meeting – rather the first part of this meeting is a public meeting to discuss the environmental investigations, conclusions, and draft remedial action

plans for two areas on Mare Island: Investigation Area E, located on the hill in the southern end of the – of the island, and Investigation Area A1, clean parcels, located at the northern part – northern part of Mare Island.

For environmental-management purposes, Kelly Ryan from Tetra Tech is going to help me with the presentation. And by the way, the fact sheet and the presentation tonight were prepared with the help of Tetra Tech, and we appreciate the help.

Here's a map of the investigation areas. For environmental-management purposes, Mare Island has been geographically subdivided into about 15 investigation areas, which you can see from this map, and you should have a handout with the slides and the overheads that we're going to use tonight as well. We often use the acronym IA for the two words "investigation area."

At this point, I'd like to go over the agenda briefly. First I'd like to give a brief overview of the RAP/ROD process, our environmental cleanup process, and then move on to a presentation discussion on the Investigation Area E remedial action plan, followed by questions and comments. Depending on the time, we could take a break at that point, and then proceed to do the same for Investigation Area A1, clean parcels, with a presentation followed by discussion and comments. At the end of that, another break, and then we would continue on with the abbreviated RAB meeting for the Restoration Advisory Board.

Q. Mr. Chip Gribble - Does that sound agreeable? Would anybody rather have a different order for any reason?
A. Ms. Myrna Hayes - No.

Mr. Chip Gribble - Sounds okay. And if anybody has questions as I go along, please feel free to ask questions throughout the presentation. Don't feel obliged to wait until the end. Next presentation slide. Here's a map of the two areas that we're going to be discussing for the remedial action plans tonight: at the southern end of the island, the hill, which is Investigation Area E, and highlighted at the top is Investigation Area A1, clean parcels.

Investigation Area A1, clean parcels, is a subset of Investigation Area A1. What we've done is carve out some of the contaminated areas in A1 and left those aside so we can move forward with the remainder of Investigation Area 1, which we think is clean and suitable for no further action.

I would like to walk you through the regulatory process to allow you to participate more effectively in this whole process by having a basic understanding of the process. This is a general overview, not necessarily specific to what we've done here. In general, we start with what's called preliminary assessment, where we review records. We gather information that's available in our files. We sometimes talk to former shipyard workers or former workers at a particular site and gather all the available, easily obtainable information on the site so that we

have an idea of the history and the possible issues.

We can follow that up with an SI (site inspection), where we will typically take a limited number of samples to get a further refined idea of what the issues are that we need to address. That generally isn't enough to characterize the site. That gives us a clue as to what we need to do and what we need to look further for. So then we'll follow on with a more intensive investigation, which is called a remedial investigation.

By the way, there's an acronym that goes with that called a PASI, which is a federal term, and the state term is a PEA, preliminary environmental assessment. They're essentially equivalent, but they're different acronyms for the state equivalent and the federal equivalent.

The next step of the process is the remedial investigation, which generally involves extensive sampling and data analysis to evaluate quantitatively the risk that's posed by the contamination of the site, assuming that we have contamination and get that far. At the point where we've characterized the site in terms of the extent of contamination, the levels of contamination, and the risk that follows from that, we then consider a number of possible remedies to address that risk, reduce the risk, or mitigate the risk. We call that a feasibility study. We evaluate a number of different remedial options.

Following that, we get to where we are tonight on two areas, which is the remedial action plan – the acronym for that is a RAP – and the federal equivalent term is Record of Decision (ROD). At this point, it's a draft document. We put that in front of the public. We're required to submit that to the public for a 30-day comment period. We are also required to hold a public meeting to give the public an opportunity to comment on those and to hear what we have to say about those documents.

The 30-day comment period on these documents started on May 10 and will end on June10. All the comments that we receive, by the way, we will respond to in writing. They will be part of the record, and following that comment period, we will then make a determination on whether or not we go forward and approve those documents as final or make changes based on what has transpired in the public-comment period.

So following the remedial action plan, we don't necessarily have the remediation addressed. Sometimes the remedial action plan typically says that certain actions need to be taken to clean up the site, and at that point we move into a remedial design and remediation phase, which is then followed by a long-term monitoring. Once all the remedial actions have been taken that have been specified in the remedial action plan, we then certify that all remedial actions have been taken, and from our perspective, at that point the property is eligible for transfer.

The Navy will generate a document called a FOST, Finding of Suitability to Transfer, where we will review that document, and if it says what we think is appropriate, we would concur

or approve of that FOST, and then, by the Navy's process, they would then be able to transfer the property.

Q. Mr. Chip Gribble - Are there any questions on the basic process?

(No questions were asked.)

Mr. Chip Gribble - Okay. Llet's move on to the Investigation Area E presentation. The draft remedial action plan that we put out says that we think we've addressed all the environmental issues. There is one issue on the hill which we think calls for a remedy – a limitation on the use of the property for the original nine-hole course. That's what we're proposing for the remedy for Investigation Area E.

The Navy has done a lot of work, and we've done a lot of work with the Navy, to get to the point where we've drawn that conclusion, and I'd like to go over that at this point. The Navy investigated Investigation Area E, the hill, for unexploded ordnance, as I think we all know we've been talking about that a long time here. Unexploded ordnance is a big issue at Mare Island. The Navy's been working on for several years on this project. This was a question for Investigation Area E.

The Navy did a survey, which included a site walk, geophysical surveys, and excavation of all the anomalies that they identified in the surveys. What they found in all of that was that there were no unexploded ordnance items found in the hill through the site walk. There were several anomalies that were identified. Those were all excavated, and none of those were determined to be unexploded ordnance or ordnance-related type of material.

In addition to that, there was an ordnance reservoir on top of the hill. It was not a place that ordnance was stored, despite the name. It was a place where the Navy stored water to fight fires, but the term that's often used is ordnance reservoir. That ordnance reservoir was drained. It was mucked out with the thought that there might be some ordnance or explosive waste or some evidence of that history at the bottom of that reservoir. None of that was found in the bottom of the ordnance reservoir. I think a bicycle was found, a cigarette machine, some stuff like that. I think there were three or four spent bullets, and that was essentially it.

So the conclusion with that investigation was that there was no ordnance on the hill. Based on the history of the site, the geology of the site, and a lot of other factors, we conclude that there is no residual concern from unexploded ordnance on the hill. This will be in contrast to what we will eventually say at some point about the lowlands, and particularly the dredge ponds or other areas where we have had a history of unexploded ordnance found.

We think this is different in that there is no residual risk, that the soil coverup there is a very thin soil cover which is underlain with weathered bedrock, and for the Navy to have disposed of any ordnance up there, they would have thrown it over the side of a truck. It would have

been found on the surface. None of that was found. Or they would have had to excavate or dig through this weathered bedrock to make a pit in which this material could be disposed, and none of that was found in our surveys.

Further, when the Navy did want to dispose of ordnance, it would have been likely for them to have just gone to the water's edge and thrown it over the water's edge or disposed of it in one of the low-lying areas where stuff was disposed of. It would have been unusual for somebody to go to the length of digging a hole on the hill to dispose of the stuff when they had so many easy opportunities at low-lying areas. So we think that the probability of unexploded ordnance being found up on the hill is essentially nonexistent or no different than we would find anywhere else in the City of Vallejo or any other community.

So from our perspective, we don't think there is any residual risk and any residual concern from unexploded ordnance on the hill. Polychlorinated biphenyls, PCB – the Navy had a program to investigate sites throughout Mare Island where, based on the historical use of materials or electrical equipment, that there was some possibility of PCB contamination. This includes, for the most part, electrical substations, transformers, and other electrical equipment.

The Navy submitted reports on that, and we've evaluated that and concluded that there is no risk from residual PCBs up in Area E. There was one transformer site which was an outdoor site which did have a PCB-leakage problem. The Navy decontaminated the equipment that was up there. The concrete pad that it sat on was also decontaminated. Typically what the Navy does for the concrete slabs is to scrabble or remove the surface layer of concrete down to a point where chip samples indicate that there's no residual PCB in the concrete slab.

In addition, at this particular site, soil was excavated around the perimeter because PCBs have run off the top of the slab, and the PCBs were found to extend, I think, about two feet out from the slab and some number of feet down. So there was basically a trench excavated around the perimeter of this transformer site, and the PCB-contaminated material was removed. A fairly limited site in terms of extent.

The radiological surveys for the shipyard, most of that work is already completed, but tonight we're just talking about Investigation Area E and part of A1. The radiological series that the Navy did were very extensive and involved a significant amount of sampling and surveying for every possible question that they could come up with and that we could generate as well, and in our team of regulators doing the oversight for that program, we had several people, several agencies involved, Department of Health Services, the U.S. EPA and our agency, and we feel that that was an excellent job that the Navy did. There was no contamination that was found in Investigation Area E in all of those surveys.

The surveys did extend to the possibility that material may have leaked onto roadways off of trucks passing in and out of the shipyard. Nothing like that was found. Sewers were also

sampled, as well as all the buildings and structures in areas where we could identify as having any radiological history.

And by the way, I'd like to identify one person in the audience here who played a significant role in that. Steve Dean from the US EPA, if you'd stand up and let yourself be known. Steve played a major role in that and in our efforts to oversee the Navy's radiological surveys.

Another program that the Navy had to address was for underground storage tanks. For the most part, the underground storage tanks and petroleum hydrocarbon issues focused on five sites that were identified in a database that had been generated over the years, which was a collection of all the sites that had been mentioned in any previous report or sites that had known underground storage tanks. Many of the sites that were listed in this database are phantom sites generated from contradictory reports, mistakes in previous reports of titling various sites. So a number of sites that are listed in there are actually duplicates of other sites, and some sites that are phantom sites.

In Investigation Area E there were five listings. One of those was a 500-gallon heating-oil tank, which was removed. By the way, all the tanks on Mare Island that have been identified have been removed. Another was the lighthouse, which the Navy investigated and was not able to locate any UST in that location. A number of the structures that used to be in that part of Investigation Area E have long since been removed, and trying to find some of these possible USTs is a difficult task.

There was another tank, No. 658, which was removed, and that was a 100-gallon diesel tank which was determined by the Water Board as a low-risk site, and then there was one other tank site that we determined to be a phantom site, and one more which was found to be nothing but a former water cistern that was not used to store hydrocarbon at a later date. So all the UST issues in Investigation Area 11 E were resolved.

The next item on the overhead is lead in soil from lead-based paint. This has been a difficult issue between the agencies and the Navy or DoD in general where we think that this is an issue that needs to be addressed, and the Navy hasn't always agreed with us. However, for some parts of the island, EPA had a contractor at the time, which was Weston, who was a contractor to EPA at the time, who went out and did a study and an evaluation in some parts of Mare Island, including Investigation Area E, and several structures in Area E and A1 were sampled and evaluated for possible lead contamination in soil from lead-based paint.

In Investigation Area E, there were two buildings that were found to have significant lead contamination. And, Kelly, is there a photograph of the water tanks?

Ms. Kelly Ryan - Yes. Do you want to skip ahead to that? It's 2 R.

Mr. Chip Gribble - The photograph there, yes. Significant lead contamination was found in the

soil surrounding these two tanks, and unlike some other areas at Mare Island where we've had our struggles with the Navy over this issue in particular, the Navy did do a soil removal around these two structures to remove the contaminated soil. And the residual levels were, on average – somewhere in the neighborhood of 350 parts per million – below our general screening level of 400 parts per million. We think that's an acceptable residual contamination for unrestricted use.

We can go back to the slide with the bullets. Okay, at the last RAB meeting, I talked about the different sites and different categories that the Navy has. Initially the Navy had 24 IR sites, which we later called our Group 1 sights, and subsequently, we did other rounds of site identification, and we called those Group 2 and Group 3 sites.

In Investigation Area E, there is one Group 1 site which is called IR 22, which consists of two ordnance storage bunkers in the hill. The site was identified as an IR site because at one point somebody identified white powdery substance on the floor inside the bunker. The material was sampled and removed and thought to be a pesticide material. The concrete floor was chip-sampled subsequently, and some very low levels of pesticides were found in the concrete. Since the floor was cleaned, that white powdery substance was removed, and the residual contamination of pesticides was very low. We felt that was the end of that concern.

However, it was brought to our attention that outside of the bunker lead tags were found in the soil, and these were presumably from seal tags that had been used on ordnance storage boxes and that were ripped off or fell off and were found in the drainage ditches outside of these two bunkers in particular and possibly some of the other bunkers up in the hill. The soil outside these two bunkers was removed down to what was below that, an underlying asphaltic pavement, and we concluded that that problem was eliminated. The Navy also did sampling for lead in the drainage ditches elsewhere in the hill, did find lead contamination, but below the screening levels that we've already discussed.

The last bullet up here is the golf course, which was an unusual site. The Navy did some sampling at the golf course with the understanding that pesticides had historically been used at the golf course, and this is a place where we would likely find pesticide residual contamination. We did some limited sampling up there. Most of the samples were found to show very low levels of pesticide contamination or negligible contamination, except one where we found significantly high concentrations of arsenic from an arsenical pesticide. And the peak concentration I think was 541 parts per million.

That particular contaminated location was excavated, and that contaminated soil was removed. It was found to extend down to about two-plus feet, and I think the excavation hole was about 20 foot by 20 foot, and the residual levels were consistent with other parts of the golf course, where we found no or marginal contamination, close to our ambient concentration of, I think, 16.

Because of the way pesticides were used on the hill and the very localized nature of this particular deposit, we think that there is a reasonable probability that the arsenic-contamination locations exist on the original nine-hole course, but that the extent of these peak-concentration areas is so limited that, to find them we would have to grid off the entire original nine-hole course on a square-foot basis to be able to have a reasonable assurance that we would have identified all those locations.

That being what we felt was unrealistic and also what we felt was a reasonable probability that there are other limited locations on the golf course that have that kind of concentration of arsenic, which we think is acceptable for the intended use of the golf course or that kind of a type of a public use, but not acceptable for unrestricted use – that because of that, we're proposing, in our remedial action plan, a land-use covenant which would limit the use of the original nine-hole course to prohibit residential development and other sensitive uses, such as daycare centers and schools. That remedy extends only to the original nine-hole course and for the only contaminant of consequence from our perspective, which is arsenic.

So with that residual risk from arsenic, we did go through an evaluation of alternatives. Several alternatives were evaluated. One was no action, which obviously is not acceptable because of the risk that is posed by that contamination of arsenic for unrestricted use. We also considered capping the original nine-hole course. I think there's a practical and cost-limitation factor there which was a consideration.

And another one was an excavation, which would also be expensive and somewhat impractical to excavate the top level of soil throughout the nine-hole course. And that's how we concluded that, in our view, an appropriate remedy for this is the land-use covenant to limit the future use of the golf course.

That's my presentation for Area E, and hopefully we'll have some questions from the audience. Give me one question. Give me a hard question.

Q. Mr. Dennis English- I have a question. You mentioned earlier that you have a hesitance. Did you do a preliminary endangerment assessment?

A. Mr. Chip Gribble - Because of the way a lot of this work was done when the shipyard was going through closure, the shipyard at the time had roughly 3,000 employees. It was going down all the time. The Navy was trying to keep them busy and productive, and some of the ways in which they wanted to do that was to use them in the radiological surveys and the unexploded ordnance work and the PCB-program work and the underground storage program, and we thought that was a good way to go.

We agreed with that, that that was a considerable resource, that if we worked with the Navy nd their resources or the skills that that remaining workforce had, that we could benefit greatly from that. So what we did was we organized what you would ordinarily find as a PASI document, a Preliminary Assessment Site Inspection, or the state equivalent of a PEA

document. Instead of having one nice, neatly packaged document with all those issues in it as a PEA or a PASI, we have several reports from each of these programs addressing the issues that were dealt with in that program.

If you take this collection of miscellaneous documents and you put them all together, you will have the equivalent of a PEA or PASI document, and in some cases the equivalent of an RI document depending on what levels of work was done to address the question at that particular location. For example, IR 22 was more of a PEA evaluation.

Mr. Dennis English - Well, I just believe that the PEA preliminary. . . . According to the state's preliminary endangerment process assessment, there's accountability to that study so that a person who has done the study is held accountable for any problems that may occur in the future. So it's just a suggestion – if you go for the state's way of doing things, but I guess you already went ahead and did it a different way, which hopefully there still is accountability for those who did the surveys, which are severe if you don't do it properly.

Q. Mr. Chip Gribble - Can you expand on your point of accountability?
A. Mr. Dennis English - Accountability would be if studies were done improperly, or I believe the county EPA people know what I'm talking about, and also the Department of Toxic Substance Control. They have rigid guidelines on how to do these assessments, and if it was a consulting firm or even public officials or a staff doing the work, they have to be certified in certain areas, and they also have to stand by their work, and the work has to be evaluated. And if there are some problems found through certain discrepancies or whatever, there are criminal and civil penalties. So I'm just trying to find out if that was what you did, but --
C. Mr. Chip Gribble - That's a good point. By the way, I work for Department of Toxic Substance --
Mr. Dennis English- Oh, great.

Mr. Chip Gribble - I wish the Navy were giving this presentation. As far as accountability goes, some of those requirements, such as people doing radiological surveys or radiological work in the State of California or – if I may speak for DHS – I shouldn't speak for DHS, but my understanding is that Department of Health Services requires that those people or those firms be registered or licensed with Department of Health Services of the State of California, for example.

The Navy's radiological workers and their radiological team were not certified. They were not required to be certified because they were – if I understand this correctly – because they're federal employees on the federal property on a military site, and that registration or legal requirement didn't apply to Mare Island.

As I understand it, those people who used to work in that program, who have now moved on to civilian sector and are now private contractors working on other military sites, are now required to be certified with Department of Health Services, but the essence of that

requirement and those types of requirements is really to help ensure that the people doing that work are qualified. And in this case, we felt that they were extremely well qualified.

I would say that also for the unexploded ordnance program. These people were specialists. Their professional career for the most part was in military service dealing with ordnance. I can't come close to that kind of qualification myself. In some areas, the PCB program in particular, and the UST program, many of the people who were working in those programs were Navy people or former Naval shipyard employees who had gone through retraining programs and had some ability to do that work, or shall we say people within their program had the ability to do that work as other people were learning on the job.

So to the extent that we've approved this work, we think that it was done in some cases excellently and other cases satisfactorily. I wouldn't say excellent for everything. I don't think you would say excellent about my work for everything either, but we are comfortable in our conclusion. Any other? Ken?

Q. Mr. Ken Kloc - A couple of questions. In the upland magazine area, are those bunkers going to be demolished?
A. Mr. Chip Gribble - Well, I don't know officially. The developer who will get that property eventually, the golf course specifically, will keep some of those, if not all of them. And I don't know what he plans to do with them. I think some of them he's using for storage right now, but my understanding is that he's not going to be tearing them down. But that's really not for me to say. I don't know that for certain.

Q. Mr. Ken Kloc - And then, were there any lead-based-paint issues at those bunker structures?
A. Mr. Chip Gribble - For the most part, the bunkers are concrete, and they're mostly buried in the hillside or they're dug out of the hillside and then with a soil crown on top of it. So most of them have very little exposed concrete surface and very little exposed paint surface.

Q. Mr. Ken Kloc - And then one last question. In the negative declaration, it says that the environmental, or ecological-risk, assessment for the upland magazine area revealed potential ecological risks due to lead, and then it says DTSC considered several other factors and concluded that there was no significant ecological risk. And I was wondering if you could explain a little bit more what those other factors were.
A. Mr. Chip Gribble - If I may, Jim Polisini is an eco-toxicologist from our department, and I'd like to refer that question to Jim, please.
A. Mr. Jim Polisini - I worked on the eco-risk assessment, the review of it anyway. Basically, what we looked at was the area at the top of the hill. Tthe source of lead appeared to be those tags that Chip mentioned that were apparently torn off the bags or fell off the bags when the bags were taken out at the ammunition-storage area.

So what we looked at was, number one, what's the distribution of lead tags? And as Chip said, a lot of that soil was taken out. There was still some lead in the soil, but the distribution

of lead concentrations was fairly spotty. I don't know how statistical you want to get about this, but there were some high areas and some low areas. And basically any ecological receptor, if it's like a mouse or something like that, is not going to stay in one place for its whole life. So it's going to move around. Even if it stays in the area of the ammunition, it's going to move around that. So it's exposure averaged out over that area would be less than the maximum obviously.

And the other thing we looked at was bioavailability in that those tags would be elemental lead, which is not as highly available as the lead used in toxicity experiments. So even if it, over a period of time, weathered and became more bioavailable, it's not going to be as toxic as the lead used in the experiments in the ecological-risk assessment.

So given those factors, we thought the bioavailability, the patchiness of the lead concentration, and the removal action, that those actions were sufficient in terms of eco risk. Plus the habitat surrounding those areas is of a higher quality than the habitat right by the bunkers.

Q. Mr. Jim Polisini - Does that answer your question?
A. Mr. Ken Kloc - Yeah.
C. Mr. Jim Polisini - Okay.
C. Mr. Ken Kloc - Thank you.

Q. Ms. Diana Krevsky - Along in the same area, there was mentioned some other chemicals of concern or potential concern in the uplands magazine area, and there's a whole list of them in the report, and then it just kind of disappears. I wonder what happened. Are they not of any concern at all? I can list the ones that are down here. I don't even know what they are.
Q. Mr. Jim Polisini - Is that for the eco-risk assessment?
A. Ms. Diana Krevsky - This is the remedial action plan, the RAP.
A. Mr. Jim Polisini - Yes, but there's a section for the human-risk assessment and a section for the eco-risk assessment.
Q. Ms. Diana Krevsky - This is for chemicals of potential concerns. Is that your area?
A. Mr. Jim Polisini - Well, it would depend on which sections. Basically I can tell you --
Q. Ms. Diana Krevsky - Development of remedial goals. Does that help?
A. Mr. Jim Polisini - I'd have to get the documents and look at it. And basically I can tell you that, for the eco-risk assessment, the major component of concern was lead.
C. Ms. Diana Krevsky - Okay. And I guess I'm not just staying with a eco-risk assessment, but just in general, there was a reference to these chemicals in the upland magazine as potential concern, but then nothing that refers to it thereafter. So I'm wondering if they weren't of any concern after all upon consideration.

Q. Mr. Chip Gribble - Diana, could you read that part so that I can --
Q. Ms. Diana Krevsky - Okay. So, you don't know it by heart?
A. Mr. Chip Gribble - So I know what I wrote.

A. Ms. Diana Krevsky - If anybody has the report, it's page 19, and it's under Development of Remedial Goals, and then it goes under Selection of Chemicals of Potential Concern. Selection of -- .

(Ms. Diana Krevsky reads:) Some are based on analytical data obtained during July 1996 with the sampling in this area, and then you go through the process of -- but based on the above process, chemicals were retained as COPCs, chemicals of potential concerns, for the upland at magazine area and golf course area. Seven metals were identified for the upland magazine area. And it's antimony, chromium, lead, manganese, tin, titanium, and zinc. And then the COPCs for the golf course area were identified as arsenic, and then a whole group of unpronounceable ones. So identification and selection for the upland magazine and golf course areas was based on a comprehensive remedial investigation and environmental evaluation process in conjunction with the closure.

C. Ms. Diana Krevsky - And then it just goes on, and it doesn't say what happens with those concerns.

A. Mr. Chip Gribble - I --

C. Ms. Diana Krevsky - I didn't understand.

A. Mr. Chip Gribble - What I'm getting from you is that -- that the discussion in the RAP doesn't sufficiently explain how we dispensed with those chemicals --

A. Ms. Diana Krevsky - Yeah.

Q. Mr. Chip Gribble - -- concerned? I can't tell you offhand. Mike, do you recall that? That's probably not a document that you read before you came to this meeting to refresh your memory.

A. Mr. Mike Wade - I did look at one of the documents for Area E awhile ago, and I think there were a number of compounds, but when you looked at the levels they were present at, they really weren't of concern for the kind of exposures we were expecting.

C. Mr. Chip Gribble - We can look at that further and get back to you later. We'll probably have to go back and look at the document closely and see what we did with those chemicals.

Q. Ms. Diana Krevsky - Okay. But basically I guess the question was were there any other chemicals that --

Mr. Chip Gribble - -- that generated a risk?

Ms. Diana Krevsky - Yes.

A. Mr. Jim Polisini - I can tell you that, for the eco risk, which is the part that I worked on, that lead was the big driver up there, and we thought that was taken care of. There's a whole process that you go through where you look at what all the potential contaminants are and which ones might be of most concern, and then you kind of winnow them down to the ones that are the most important, and lead was the big driver.

C. Ms. Diana Krevsky - Okay.

Mr. Chip Gribble - I apologize that we can't answer the question any better than that, but if I can just give a little perspective. There's a lot of paperwork that's been generated on these sites

over the years, and to put that all in our head for a meeting is quite a challenge. So some of the questions that you give us we're not prepared to respond sufficiently at a meeting like this, but we will go back and look at that and provide you with a response.

Ms. Diana Krevsky - Thank you.

Mr. Chip Gribble - Jim.

Mr. James O'Loughlin - Yeah, my name's James O'Loughlin. I have a one-page comment I want to submit now, and I want to reserve the right to submit further written comments between now and June 10, the end of the written comment period.

The first, there's basically three comments. A lot of the pages at the beginning of the initial study aren't numbered, the ones that cover the project background, so it's very hard to refer to them when you want to comment on some of the documents that were used in the background of the report.

Secondly, the checklist, the initial study checklist, there's items that have been gone through, and all of them have been checked no impact, often in conflict with the preliminary documents and other documents, such as the onshore and offshore ecological-risk assessments.

And then lastly, on the initial study, page 3, it mentions the risk from the rodenticide that contains arsenic, and the risks are glossed over, and it should be reexamined, and, secondly, if there is a significant rodenticide there should also be considered to have an effect on four different habitats or a fate in four different habitats, such as air on page 8; page 9, surface and groundwater; 8 and page 11, animal life; and page 20, public health and safety. And thank you for the opportunity to comment and holding the public meeting.

Q. Mr. Chip Gribble - Jim, as I understand it, you're commenting on the CEQA package, which is the initial study essentially. Is that correct?

A. Mr. James O'Loughlin - That's correct.

Mr. Chip Gribble - Okay. The purpose of the initial study is to evaluate whether or not the project that we are undertaking, has a significant effect on the environment. The project that we're undertaking in this case is the remedy or the proposed remedy is a land-use covenant or effectively a deed restriction to limit future use of the golf course.

So, in other words, the initial study is an assessment or analysis to evaluate this land-use covenant that we're proposing. Does this proposed remedy have a significant effect on the environment? Our view is that the act of imposing that land-use covenant does not.

The issue about whether or not the environmental investigation and that remedy is adequate for the contamination at the site, we would try to address those questions in our investigation documents, and the remedial action plan. So I don't know if that helps at all. Is that --

Mr. James O'Loughlin - No. Well, this is part of the state CEQA guidelines that comments on the draft initial study should be responded to after the written comment period.

Mr. Chip Gribble - Oh, we'll respond to your comments absolutely.

Mr. James O'Loughlin - Okay.

Mr. Chip Gribble - We are obligated to do that. I'm not sure how else to respond at this point on that comment. We'll look at your letter, and we'll try to provide a written response to that. Any other comments?

Q. Ms. Myrna Hayes - Chip, can you briefly tell us how the land-use covenant is going to work, what the mechanism will be to . . .

A. Mr. Chip Gribble - I'm not an attorney, but my understanding is that the way the property is recorded at the county assessor's office, the Navy cannot enter into that covenant with the State of California, and so in order to – Dan's looking at me quizzically. Maybe I got that wrong. Please correct me if I don't have it correct. So, in order to effect the remedy, we will enter into a memorandum of agreement with the City of Vallejo saying that, when the City of Vallejo receives title to the property, they will enact this land-use covenant.

So, at that point, with that memorandum of agreement in place with the City, that effectively acts as a remedy where we can then say all remedial actions have been taken. And then, at that point, we could approve a FOST, assuming the FOST has been found appropriate, approve the FOST (Finding of Suitability to Transfer) that the Navy puts out, which will then put the Navy in a position to be able to transfer the property to the City. Once the City gets the property, they are legally bound to implement the land-use covenant, which would run with the land, and that limitation would be in effect undoable without the approval of the State of California Department of Toxics. Did I get that right, Dan? Dan's nodding his head.

Q. Mr. Ken Barden - Ken Barden. Will the proposed land-use covenant cover the second nine holes also?

A. Mr. Chip Gribble - No, it would not. Because the pesticide issue of arsenic, in our view, never extended beyond the original nine-hole course. The application was that the arsenic comes from an arsenical pesticide application at the golf course. I don't think it's likely to figure that the Navy was applying that in general up on the hill. I couldn't imagine any purpose that they would have found in applying the pesticide elsewhere on the hill outside of the golf course.

So we think that the concern extends to the limits of the original nine-hole course, even though a larger property's going to go to that golf course developer, that we don't want to unnecessarily broaden the limitation on the property for no valid reason. However, when somebody has a golf course and they propose to redevelop that someday for townhouses or residential developments or school property or something else, that, to the extent that I understand real estate, there would be other forces that would come into play that would obligate a further investigation into the suitability of that property for that other use. We wouldn't necessarily be involved in that as a matter of course, but I think that would happen.

Any other questions on Investigation Area E? At this point, I suggest that we take a ten-minute break.

(There was a recess from 8:08 p.m. until 8:20 p.m.)

Ms. Myrna Hayes - I'm going to welcome you back to the public meeting. Welcome, Kay Woodson, from State Senator Wesley Chesbro's office. Thank you for being here. Our presenter is disappearing on us, so I'll conduct the meeting. Jerry and I have made a commitment to ourselves and to you that we really do want to get out of here by 9:00 tonight because we've held you over a couple of other evenings. So we may dispense with the focus group reports and just do our co-chair reports after this Area 1 presentation and questions, because the commitment I made to DTSC was I'd rather have this public meeting here and sacrifice our regular schedule than do it on another night. Okay. Chip, here you go.

Mr. Chip Gribble - I'll try to move a little faster here. By the way, people can make written comments and submit them to us tonight or through the mail. People can make verbal comments tonight. We will consider verbal comments, the written comments, and any way that you want to communicate to us your comments or questions, we will respond to them and we welcome them, particularly comments to the extent that our documents are not clear, that they don't make sense, or that the conclusions we reached are not supported in the text, like Diana's comment about the different chemicals of potential concern.

We will make changes to these documents to try to improve the readability and to strengthen our conclusions so that, as you read it, you can follow how we got to our end point and hopefully that you would then agree with us. Those kind of comments are particularly welcome. All comments are welcome, by the way.

Okay. Investigation Area A1, clean parcels, is a subset of Investigation Area A1. In Investigation Area A1, there are two IR sites with considerable contamination that we carved out of the Investigation Area A1, clean parcels. They are boundary concerns, and what we did to make sure that the influence of those sites didn't cross over to A1, clean parcels, was a number of things, in particular a groundwater-plume analysis where we tried to delineate and project the extent of contamination from those sites over so many years.

And then we also extended that line to include a buffer for an extra margin of safety so that we would not have to be concerned with contamination coming from those two sites. Specifically, this is right here on the map is IR 17, a former paint-manufacturing facility. Significant contamination there.

By the way, the Navy has done a removal action there, a soil removal action, which has reduced the risk, reduced the contamination. I don't believe that that's fully remedied, but the Navy has made progress in getting to the end point there. There is some groundwater contamination from that site extending some distances away from it, and we think that the

extent of the A1, clean parcels, provides a sufficient buffer zone and distance from that contamination at IR 17 so that the A1, clean parcels, will not be impacted.

The other site that has contamination is IR Site A, which is up here. It's a site with lead oxide contamination from a lot of spent batteries that were dumped out there. The Navy also has done an extensive removal action out there. I believe that the Navy thinks that probably is an adequate cleanup for final remedy, but we're certainly not at that point in agreement with them. We may someday, we may not, but that's still an open question in our minds, and so we've carved out those two areas in particular from the area that we're talking about today.

A third area or source of contamination is here, which is a former gas station, Building 99 -- UST Tank 993. There are four USTs, underground storage tanks, in that location, and there is groundwater, there is soil contamination at that location from the underground storage tanks. We haven't finished characterizing that site, but we also have added a buffer distance between that and the Investigation Area A1, clean parcels, which we think is adequate so that that contamination doesn't cross over within a reasonable period of time. And our projected time frame is five years.

Okay. Unexploded ordnance. This area also was evaluated for unexploded ordnance in the broad sense of the term. There were two shooting ranges in this general area of the shipyard that in many years past were a small-arms range and a skeet range. The small-arms range backstop existed outside of Investigation Area 1, and it's somewhere over in this vicinity over here. The place where they shot from is still in Investigation Area A1.

The unexploded ordnance program -- people did investigate that looking for evidence of bullets and -- and did some soil sampling, particularly out here at the backstop. Lead contamination was found, but that's for a different meeting and a different discussion since it's outside of Area A1, clean parcels. We think that the issue is no longer a concern for Investigation Area A1, clean parcels.

The next topic is Group 2 and 3 sites. As I said earlier, initially we had 24 IR sites for Mare Island. We call those the Group 1 sites. Later we went through subsequent rounds of site identification, and the sites identified in those phases were called Group 2 and Group 3 sites. In the A1, clean parcels, we have no Group 1 IR sites. We do have two outside, which I already discussed.

For the two Group 2 and 3 sites, there were two that were identified, domestic sewage pumping stations, Dom 1 and Dom 2. In other investigations we've done on the shipyard for utility systems, we found that the pumping stations are the most likely parts of those systems where we're likely to find contamination, as opposed to the runs or the utility lines themselves.

For the pumping stations, it effectively is a sink or a low spot in the system, and if you were

to find contamination anywhere in the system, it's most likely to be at domestic pumping stations. Both of these locations were found to have some contamination. We concluded that it was very limited contamination, and the extent of concentrations was not a concern.

Kelly, the next one, please. Again, the radiological surveys were done in this area. I believe there was one that I can recall where there was radiological contamination, and that's in Building 655. I'll try to point with my little finger on this big wall. 655 is that big gray block up there. Thank you, Wally Neville.

Here's building 655. To my recollection, there was radium contamination in part of this building. I think it was in this corner of the building. Our agreements with the Navy call for cleanup or removal of radium contamination down to levels that were indistinguishable with background. Radium is a naturally occurring radioisotope. Radium is naturally found, and it's radioactive. So in soil outside and in an uncontaminated location, there will be radium 226, which is a radioactive isotope.

However, it's also a nonnaturally occurring radioisotope, and it can be in levels that are above natural levels and represent contamination. So there was contamination at this location. The Navy, in every instance where radium contamination was found, the radium was removed so that the residual concentrations were indistinguishable from background. We can say that with certainty in the areas where they did have contamination because, in order to make that determination as indistinguishable from background, that required statistical analysis, which required a significant number of samples in order to do the statistical analysis. So that in itself requires a significant survey and sampling of the site to verify that it's indistinguishable from background.

The PCB program: there were a number of sites that were evaluated in this Investigation Area A1, clean parcels also. Some of these PCB contamination was found. In general, the sites where we found PCB contamination were limited in extent, and the Navy cleaned them up or did the abatement to levels that were below 1 part per million. The PRG, by the way, for PCBs is less than 1 part per million. I think it's .2 parts per million.

So you may be wondering why we didn't clean up to less than 2 parts per million, we're saying it's okay. The Navy's cleanup goal was less than 1 part per million, and we felt that many of these are so limited in extent that they don't represent a consequential risk at that concentration. So the risk is really dependent on not just the concentration, but also the extent of contamination.

Underground storage tank (UST) program. In the UST program database, there are four listings of sites within Investigation Area A1, clean parcels. Two of the sites were not located. One of the USTs was removed. That was a 2,000-gallon waste-oil tank, which we determined was not problematic. Another one, called UST Site 999, was a 6,000-gallon diesel-fuel tank which the Water Board and we also concluded was not an issue.

However, in reevaluating these, the two tank sites, 655 and 655-1, these two tanks -- in additional site inspections we found evidence that a tank may have been or was likely to have been located in that area. The Navy went back for it, which I believe was the third time to look for a possible UST in that vicinity, and was not able to find a UST once again.

However, on the third go-round, petroleum hydrocarbon contamination was found. It doesn't appear to be significant. The contamination is hydrocarbon only. And by the way, if we have hydrocarbon-only contamination, that does not fall under our regulatory authority, and that has been turned over to the Water Board, for final determination. Our determination is that that site is a hydrocarbon-only contamination site, and we are not regulating that particular site. The presence of hydrocarbon-only contamination does not preclude transfer in this case.

Lead in soil from lead-based paint. Again, there are a limited number of structures in Investigation Area A1. Because of our disagreement with the Navy about how to handle this issue in particular, or regulatory authority over this issue, the EPA in this case, instead of the Navy, they had their contractor at the time, Weston, go out and sample a number of the buildings in this area that we felt were representative of the most likely places to find lead contamination in soil from lead-based paint. Our conclusion was that that is no longer an issue for Investigation Area A1.

I don't think this is adequately discussed in the RAP. Also, that report by EPA and the EPA's contractor, Weston, talks about one building in particular. And now my numbers are fading in my head. This building right here.

Q. Ms. Myrna Hayes - 571?

A. Mr. Chip Gribble - Building 571. And the average concentration of lead from the samples around that building is something in the neighborhood of 850, and that's considerably over our screening level. We have written to the Navy saying that that one was unacceptable and they need to go remediate that, and the Navy came back to us and said, "Mr. Chip Gribble, that's not soil – it's asphalt."

And we went back, and with further inspection, we agreed with the Navy that most of the surrounding area by that building is basically an uncompacted and weathered asphalt material, and what EPA's contractor had sampled was the dirt and the gravel coming off of the uncompacted asphalt. So the lead contamination is not in soil, but it's on the material, the asphalt material that surrounds the building, which is a different issue for us, and that is no longer considered a concern by us.

Two other buildings had average concentrations at greater than 400 parts per million. I can't remember the building names, but there should be two U-shaped buildings. There's the other one right there.

Both of those had average concentrations greater than 400 parts per million; and, again, that

was brought to my attention the other day. I don't think that's adequately discussed in the RAP, and we're going to try to add some more discussion to the RAP to clarify that. The concentrations there, see 400 parts per million, there is soil around most of those buildings, but not all the way around them, No. 1. No. 2, when you get some distance away from the building, there is pavement around most of those buildings.

So when we look at the asphalt pavement, we conclude that under the asphalt pavement there is no lead contamination, that asphalt pavement was acting as the barrier. And if we remove the asphalt pavement and took samples at a distance, which effectively is a mid-yard sample, what we call a mid-yard sample, and average those out, that the more representative concentration of lead around those two structures falls well below 400 parts per million.

We don't have the data point to make that average, but we reasoned that that is the case, that the representative concentration would fall below 400. And the way that we are sampling for lead around buildings currently is to sample at every six feet along the side of the building and composite that sample and then average the concentrations to look for averages that are below 400 parts per million.

That sampling strategy removes our ability to see high concentrations or peak concentrations, but it does give us what we believe is a much more representative concentration of the general lead levels in that particular vicinity around that building. And so what we're looking for now is an average of those composites and looking for levels that are below 400 for our screening level.

So if we were to do that at these particular buildings, samples at drip line, then composite it, and then samples also at the mid area and composite it, and averaging those together, we can reasonably conclude that the average would be below 400. That was the basis for our determination at those particular sites.

If you'll go back to the impacts from nearby groundwater. I think I already went over that when we talked about the two IR sites that are outside of Investigation Area A1, clean parcels, but that have groundwater issues, and that we did an analysis to make sure that we had a comfortable distance between those sources and the extent of contamination and the line that we've established for this parcel that we're discussing tonight.

Greensand. This is an interesting one. The Navy did sandblasting for many years down at the south end of the island using material which was a nickel-sand material, and it has a very characteristic green look to it. Greensand is the common term. This material was disposed of out at that site, which is out at the south end of Mare Island, and that's another site called IR 4, green sandy beach. I think the developer wants to call it Emerald Bay.

And the material was disposed at that site. It was also disposed of at the landfill, which is another site that we're evaluating, IR 1. The material was also disposed of to some extent as a

backfill in utility lines. The Navy has made a case, which we think is a reasonable argument, that this material was used as a backfill in utility trenches for utility repairs, and based on our review of what the Navy has found to date, that our expectation of this greensand in utility trenches, we expect that it is located in discrete locations and in a limited number of concentrations throughout parts of Mare Island and utility systems. With the expectation that these are localized, limited deposits and few deposits, we feel that that presents an acceptable risk or not an unacceptable risk for unrestricted use.

And by the way, as the developers go in and develop these areas, we will know over time if our conceptual model isn't correct, and if that comes to be, that will be considered new information and we will go back to the Navy and say that determination is no longer valid because the developers and what we found subsequently is no longer consistent with our expectation, or if it is consistent with our expectation, then, obviously, we have no change.

Ambient concentrations of metals in the fill. This comes from the many decades of the Navy operating and generating hazardous waste and materials on the shipyard and with uncontrolled releases to the straits over the decades. This material, the sediment that collects in the strait was then routinely dredged and pumped out to the dredge ponds or the western side of the island, and a large part of Mare Island has been created through these dredging operations in Mare Island strait.

There were these releases out to the strait into the sediment of contaminants and then this contaminated material was dredged up and pumped out to the western side of the island. The question then is, in the fill material which composes most of the lowland area of Mare Island, is that, the fill material, in general contaminated ubiquitously, or the ambient concentrations of these metals in this fill material, did they represent contamination or are these ambient concentrations consistent with background or naturally occurring concentrations?

And the conclusion of the study we worked through with the Navy was that the ambient concentrations are consistent with levels that do not represent contamination. That's not to say we don't have contamination pockets, but the fill does not represent contaminated fill.

So, for Investigation Area A1, our proposal is for no further action in Investigation Area A1, clean parcels, that we think that what's there now is acceptable for unlimited use, unrestricted use, and that we do not propose any additional cleanup or limitation on the future use of that property. And that's the end of the presentation, and let's go to questions. Questions? Ken?

Q. Mr. Ken Kloc - With regard to the ambient levels of arsenic, I recognize that you can't dig up the whole island and that those ambient levels are probably going to have to stay there, but nonetheless, as far as I know, that ambient level of arsenic is above the normal risk criterion, and so I'm wondering is there some way that there could be at least some sort of notification to people who are going to be using the land in the future? I'm not sure if you can do that in the CERCLA process. Probably not.

Or maybe there's some other way of doing it. I would imagine maybe if there was some mechanism in the EIS/EIR process, perhaps in mitigation.

A. Mr. Chip Gribble - That's a good question. I don't have an answer for that. Mike?

A. Mr. Mike Wade - In general, arsenic, all over the state of California, is higher than the one-in-a-million risk level. For the Bay Area, I see numbers that are usually around 10. So maybe it's a little elevated over parts of the Bay Area, but there's parts down in Southern California where it's higher. So even though over that risk level, I don't think it's an unusual amount for some parts of California.

C. Mr. Chip Gribble - In a lot of these inorganic materials, there's a continuum or a range of concentrations where you can go from naturally occurring levels that are benign that are well within any risk numbers, and then there are other locations where basically they have monetary value as an ore body. And I think I'm out of my ability to speak on that as to how to handle those kind of situations where you have concentrations that are naturally occurring that represent significant risks and everything in between, from marginal risks to significant risks and how do we as a department handle or respond to that? And another question is, how do we as a society deal with that or respond to that? Steve?

C. Mr. Steve Dean - Yeah, Chip, I was going to point out that arsenic is the one heavy metal that has a very similar risk assessment anomaly that radium does, and that radium 226, the typical background level for radium exceeds the upper end of our risk range. So we're more or less we're obliged to clean up radium to indistinguishable from background because we can't go any lower, even though the risk would want you to if it were possible.

So arsenic has a similar problem in that just naturally occurring levels of the arsenic are very high on our risk range. So it's an artifact we kind of have to live with in North America, or on the planet itself, so it's a very difficult question to grapple with, but we've had to with radiation – radium. I don't know if that helped or not.

Q. Mr. Steve Dean - Confused you all the more?

A. Ms. Myrna Hayes - No.

Mr. Chip Gribble - I'll certainly explore the options, when I get back to the office, with other people in my agency. And I don't know if it's appropriate for us to pursue some type of notification or not, but I'll look into that. Any other questions?

Mr. Chip Gribble - Diana?

Q. Ms. Diana Krevsky - You said that it was okay for unrestricted use. Does that include residential?

A. Mr. Chip Gribble - Unrestricted use is residential.

C. Ms. Diana Krevsky - Okay.

C. Mr. Chip Gribble - Anything goes. We're saying we don't believe that any limitation on the property is not necessary. Okay, Paula?

Q. Ms. Paula Tygielski - My question's about the buildings with the lead around them, and the

lead levels are -- in one case it's a matter of averaging it out. But those are unrestricted? Because in some of the other buildings, you put restrictions, like you shouldn't vegetable garden around the buildings.

Mr. Chip Gribble - I think you're referring to the CCC . . .

Ms. Paula Tygielski - The CCC.

Mr. Chip Gribble - -- down by, I forget what building number that is. That's down the southern end of the island.

Mr. John Cerini - H-1.

A. Mr. Chip Gribble - Pardon me? Building H-1? The California Conservation Corps has leased the building down in the southern end of the island, and they haven't purchased it or they don't own the property. That's a lease arrangement. They're subleasing from the city, who leases from the Navy, and that lease agreement, we put in limitations to prohibit growing vegetables for the people that were living there. That's a residential-lease property.

That limitation in the lease terms does not necessarily represent a final determination on my agency's part as to whether or not we think that's suitable for unlimited use or unrestricted use or that we think there should be some limitation there. We're just saying, for the purposes of this lease, you're not allowed to grow any vegetables. We haven't made a determination that the lead concentrations in that particular location are unacceptable or acceptable either way for unlimited use.

Q. Ms. Paula Tygielski - Okay. Now, these buildings that are in A1, they won't need a similar type of thing?

A. Mr. Chip Gribble - No. And best as I can recall from the CCC lease time, that we were uncomfortable with our understanding of lead concentrations in that particular location, and rather than go to the effort to develop a more complete understanding of the lead exposures that are possible down there, that we just wanted to put in that prohibition against growing vegetables.

Q. Ms. Paula Tygielski - And as a quick question, is the problem getting lead into the food supply, or is the problem with the person working the soil coming in contact with the lead that way?

A. Mr. Chip Gribble - Gee, I think it's . . .

C. Ms. Paula Tygielski - Or both.

A. Mr. Chip Gribble - I think it's both, but Mike Wade, do you want to add to that?

A. Mr. Mike Wade - Well, in our lead-exposure model, generally the garden adds insignificant amounts. So it's primarily the food, people consuming the produce, as opposed to gardening. Although, you know, that's going to add to your exposure as well, but it's primarily the food.

C. Ms. Paula Tygielski - Okay.

Mr. Chip Gribble - Okay. These documents are available for review at the information repository here at the library. That information repository is right across the hallway here, and I believe you just check at the reference desk. The close of the comment period will be June 10th. We

will prepare a response-to-comments document, and each commenter will receive a copy of this document and a copy will be placed in the information repository. That set of responses will be part of the record as we make our determination on the RAP. Dan, did you want to say something?

Mr. Dan Murphy - I know there was one gentleman here earlier tonight who made a comment, and he's now left. And for anybody else who has made comments, I think that pretty much everybody will recognize comments from this group, but I don't know who he was. And if anybody does and can tell us what his name was so that we can, A, make sure that the comments are properly attributed to him when they're responded to and, B, that he gets a copy of this, and for anybody else who isn't sure that we know what their comment was, the same thing goes.

Mr. Chip Gribble - And this is the fact sheet that we've put out covering these documents. I don't know if everybody got one or if anybody would like one. They're over on the sign-in table. So if you want to pick up one of the fact sheets, which I think gives a fairly concise overview of what we've discussed here tonight, please help yourself.

Any further questions? And then we'll end it. Okay. Again, I want to thank everybody for coming tonight to this meeting and taking time to provide us with your feedback and comments and be a part of the presentation here and helping us do our job. Thank you.

Administrative Business:

Mr. Jerry Dunaway - Thank you, Chip. I know we have limited time. What I want to do is go through my co-chair's report quickly. And I have some handouts for the board members, and there's some handouts going out to the audience also. Just going quickly through my handouts, I have my information on the front page there: E-mail address, U.S. mail address, phone numbers, and a list of acronyms for all the acronyms I'll be using today. And before I jump into that, Myrna just reminded me we need to conduct our normal business. If we have comments to the March 30 RAB meeting, two months ago, please submit those. Otherwise, we'll make those final after this meeting.

Reports:

Navy Co-chair

Mr. Jerry Dunaway - Back into my co-chair's report, the BCT report, basically, what the BRAC cleanup team has done in the last month. We had a meeting back on April 5th, and we have meeting minutes for that. And, Maria, could you pass them out . . .

Ms. Maria Villafuerte- Sure.

Mr. Jerry Dunaway - for the board members? There's some extra ones if the audience would like

to get a copy of those. We held a teleconference on May 15th, a couple weeks ago, primarily talking about the parcels and FOST. That's that Finding of Suitability to Transfer, and that's a subset of the Area E investigation that Chip talked about in the first part of his presentation. Future EPA participation, we also talked about that at length. Essentially we have resolved the apparent deficiency of EPA not participating in Mare Island's program. They will participate. Bonnie's not here tonight, but we have resolved the difference in budgeting between DoD and EPA. They will, however, potentially have a gap in coverage between now and the end of the fiscal year, September 30.

However, we will have someone from EPA permanently by October 1, 2000. We have an RPM meeting scheduled for June 13, and the tentative location is at DTSC. I think that is to be convenient for all the parties that are attending. This is open to the public. We're simply going to discuss briefs from regulatory agencies and from Navy RPMs. And the conversion management team meetings for May and June have been canceled. The city is not holding those. Jumping on to the second page, program status, what we're doing on the base.

The ordnance program. The ordnance Tiger Team, a process improvement team with a variety of players from the various organizations, met May 8 through May 12. They did a policy review, and they're reviewing model ordnance sites up and down the West Coast. Mare Island is a primary model site. It was attended by the Army Corps, Chief of Naval operations, NAVFAC headquarter staff, as well as Southwest Division staff. They did a tour of Mare Island and a program review on May 11 and 12, and the Tiger recommendations are forthcoming. They will be addressing further work at Mare Island.

Early transfer meeting was held on May 17, and that was really just a kickoff meeting. We talked a bit about early transfer over the last few months. I have some handouts, little booklets, that help describe the process of early transfer, and if I can have those passed around to the RAB members. They are helpful to get a preliminary understanding. Actually, the cover there shows the naval hospital in Long Beach. I spent several days there as a child, living in the Los Angeles area, and it's now a shopping center, and it's a testimony to really what transfer can do.

A draft FOST for Parcel 15 -- that's the clean parcels Chip just talked about -- that is going to be open for public review starting in June, so look out for that. We are currently in the public-review period for the Parcel 10 FOST -- That's the golf course, a subset of Area E – and those comments from the public are welcome at this point. The public-comment period ends May 31, and for the RAB, I had mentioned some suggestions on how to get your comments. We want to hear from the RAB, and we want those comments. We can take them verbally, my E-mail address is on the front, or just general U.S. mail.

If I can skip to the next page, just some details. I list the environmental media, very similar to what the RAP states about Area E. These are the media that we studied for the golf course. And the second slide for that is a list of what resulted as the notifications of this FOST for

this golf course transfer. The significant difference is that we added two notifications to address historic structures.

Ken, to get back to your question, the bunkers are considered contributing historic structures, and they are subject to the memorandum of agreement with the state historic preservation officer. And two of those are currently being used as stormwater detention basins. The other ones that I'm not sure what the developer wants to do with those, or what the city plans to do with them, but I do believe they want to use them in a historic context.

Moving on to the fourth page, RAB support. We're proposing a tour on Friday, June 30, as well as Saturday, July 1. Both those are identical tours, and it's just two of them to offer flexibility for the RAB members for their ability to attend. RAB web site development. I list a web page here. If you go to that web page, you can click on support teams and click on environmental, and you'll see where we have web pages for various RAB sites. All the ones in Southern California are on there and fully developed. We're working to get all the Northern California RABs into that web page. Right now Hunters Point is in there. We'll get Mare Island in there within the next month.

And RAB support. Starting next month, we had some discussions about tracking attendance of RAB members for purposes of insuring we have consistent participation. Next month we'll start with a checklist for RAB members to check off to validate their attendance.

Information exchange. I had a couple of E-mails go out this past month, and for those who don't have E-mail, I made some hard copies here, and I'll pass them around for those who need them. And that's it. I have just a few items there for RAB presentations, and the TAPP Application No. 2 is in here for review. Let me pass it on to Myrna.

Community Co-chair

Ms. Myrna Hayes - Thanks, Jerry. I've just got a few items here. First, one of the decisions we made at the last RAB meeting was that I would prepare a letter to go to the Navy, the US EPA, expressing our serious concern about the budget snafu that occurred that caused Bonnie to transfer out. So Paula wrote her own letter, and that is here, and then there are hard copies of my letter.

And I want to acknowledge Rob Schonholtz and Diana Krevsky and Ken Kloc for making significant contributions and deletions from my original draft that improved that letter immensely.

I attended a meeting yesterday that Lennar put on for the Mare Island tenants, and I do have one copy of their land-use plan on a map if anybody wants to come up and take a look at it.

Going back to the funding issue, Bonnie has prepared a statement which she'd like me to read into the record, concerning that funding issue, and it says, "The EPA will continue to provide

regulatory oversight alongside the State of California for Mare Island. A new representative will be starting on the project in June. Navy headquarters has promised continued funding for fiscal year 2001. That's October of this year through September of 2001. There still is a high degree of uncertainty from the oversight budget starting in October 2001. At that time, our budget agreement expires. It is unclear if the agreement will extend for Mare Island and for the other military bases in EPA Region 9. Good luck, and I have enjoyed working with you."

And concerning the FOST, I want to alert the RAB members that, when you're looking at the January FOST versus the current FOST that's out for the golf course, it's really important that you note that the Navy has significantly altered their plan to assure that the golf course is not used for residential or other restrictive land uses. In other words, they removed all reference to their own initial commitment to making their own land-use covenant in their transfer from the Navy to the City, even though they note as a supporting document, from a final technical memorandum, that they can't assure that people would not be exposed to undue risk.

It's really important that you note in your comments that they've made that significant change and that that's not acceptable to you. At least that's what my recommendation would be, because in their original document they did say they would pursue a land-use covenant to insure that the golf course is not used for residential or less restrictive uses in the future, and they had actually also committed to not only a land-use covenant but also a notification and a quitclaim deed, which they have also chosen not to pursue, or there's no evidence of it anyway. So I just wanted to alert you to that particular issue. And I believe that is it.

Ken is probably running out of money for these wonderful goodies that he's been bringing. I forgot to pass the hat last month, and I also don't have a hat with me this month. I wish the regulators could take one of their hats off. And so if you want to put money in this cup as you go out, that would be great, because the Navy does not provide food for us normally. The only other item is that if anyone wants a copy of the "Western Stakeholders Forum of Land Use Control Federal Facilities Summary," put your name on the back of this letter, and I'll make you a copy. It was a very interesting presentation that I got a chance to moderate a panel on a few months ago, and this is just two or three pages. It also has a web site if you just want to write that down. It's in this letter here.

C. Mr. John Cerini - I have just one comment, since it may resolve before the next meeting. It's possible that the demolition of the residential units west of Tisdale may be approved before the next meeting. So I want to make sure and convey that.

Ms. Myrna Hayes - Something else that you might want to let us know about is, that in two or three weeks, the gate may not have a guard.

Mr. John Cerini - Well, the cameras will be installed within two or three weeks. We still have some signage that has to be put up, and then the gates will be removed from the guards during the daytime period, back at six at night, and there over the nighttime period.

Q. Ms. Myrna Hayes - One other issue along those lines, John. There are some new RAB members who do not have one of those red stickers you handed out that gives them some access to the island. Would they contact you?
A. Mr. John Cerini - Just tell me how many you need. I'll bring them to the next meeting.

Ms. Myrna Hayes - Okay. All right. Maybe people would need one -- I see Chip raising his hand.
Mr. John Cerini - Except for DTSC. I will get Chip one for sure.
Ms. Myrna Hayes - There's probably other things, but we've really had a difficult session. Unless there's some -- I mean hard work tonight.

Q. Mr. Ken Barden - Next meeting is when?
A. Ms. Myrna Hayes - Next meeting is June 29. That usually goes on the agenda. We should add that to it.

Q. Ms. Myrna Hayes - And, oh, I wanted to make one comment about the potential tour date, Jerry, and that is that that's the beginning of 4th of July weekend, and even though the 4th is on Tuesday, quite a few people may be taking that whole weekend off. So we may want to reconsider that date. Is there a show of hands of people who could not make that tour date? The rest of you will be here? Well, we'll maybe talk about that via E-mail.
A. Mr. Jerry Dunaway - We'll try another day.

Ms. Myrna Hayes - All right. Well, thank you to everyone, including Dan Murphy, who came out this evening, and we'll see you next month.

(The meeting was adjourned at 9:16 p.m.)

APPENDIX D

RESPONSIVENESS SUMMARY

Department of Toxic Substances Control

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MARE ISLAND NAVAL SHIPYARD INVESTIGATION AREA A1 CLEAN PARCELS RESPONSIVENESS SUMMARY PUBLIC COMMENTS RECEIVED ON THE DRAFT REMEDIAL ACTION PLAN

I. INTRODUCTION

On May 25, 2000, the Department of Toxic Substances Control (DTSC) of the California Environmental Protection Agency held a public meeting at the JFK Library in Vallejo to present the draft Remedial Action Plan (RAP) for the Investigation Area A1 Clean Parcels at Mare Island Naval Shipyard.

The purpose of the public meeting was to provide information to the public on the draft Remedial Action Plan (RAP) and to solicit public comments on the draft RAP. In addition, comments on the draft RAP were submitted to DTSC during the 30-day public comment period which extended from May 10 to June 10, 2000. A fact sheet that discussed the draft RAP and the proposed remedial measures for the site was mailed out on May 18, 2000. A public notice announcing the meeting were placed in the Vallejo Times Herald, the Fairfield Daily Republic, the Contra Costa Times, and the Benicia Herald, on May 10, 2000. Copies of the fact sheet and public notice are included in Attachment A to this Responsiveness Summary.

The draft RAP proposed No-Further-Action for the Investigation Area A1 Clean Parcels.

The verbal and written comments received during the public meeting and comment period are compiled and included in this Responsiveness Summary. The purpose of the Responsiveness Summary is to present a written response by the DTSC to these comments. The Responsiveness Summary and transcript of the public meeting are included in the final RAP.

This Responsiveness Summary is organized as follows:

I. Introduction

II. Public Comments received and DTSC Responses to Comments

III. Attachment A: copy of fact sheet and public notice

A copy of the final RAP and other site-related documents are available for review at:

Department of Toxic Substances Control
700 Heinz Avenue, Suite 200
Berkeley, California 94710
510-540-3800

JFK Library
505 Santa Clara Street
Vallejo, California 94590
707-553-5568

Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, California 94066
650-244-2520

II. PUBLIC COMMENTS RECEIVED AND DTSC RESPONSES TO COMMENTS

1. Public Comment Received by letter: From Mr. Larry Asera. Letter dated 6/9/2000 providing comments on the draft RAP.

a. My company represents ALCO Iron & Metal Company, Inc., an existing tenant on Mare Island since 1996 under a lease and purchase option agreement with the City of Vallejo. ALCO presently occupies Parcel 01-D1 (Building 629) and will eventually utilize Parcel 01-D2, both of which are identified in the RAP as "adjacent sites" to Area IA-A1. Parcel 01-D2 also contains IR-08, an Installation Restoration Site.

In a meeting on May 31, 2000 with the City of Vallejo officials, ALCO was informed that these said parcels were included in the Area IA-A1 RAP and therefore would be considered in a special early transfer process for remediated sites. In reviewing your RAP document, however, we have found that these parcels are located in "Exclusion Area A", which specifically excludes the ALCO parcels as Clean Parcels. Figure 2 in the RAP also labels these two ALCO parcels as "Not Transferable".

In order to clarify this situation we are requesting that the ALCO Parcels 01-D1 and 01-D2 be withdrawn from "Exclusion Area A" and be included as RAP Clean Parcels in Area IA-A1, based on the following findings by DTSC in the RAP:

- **Page 30 of this RAP states that "the Navy has implemented a significant removal action at IR-08 and based on the results of verification sampling and analysis, the Navy's consultant (TTEMI) has recommended no further action."**

- **Under the section of the RAP entitled Final Recommended Remedial Action on page 34, the RAP states that the IR-08 site "does not represent a significant risk to human health or the environment at IA-A1 Clean Parcels". Furthermore, it states that "the majority of the contamination has been removed from IR-08 and there have not been any widespread groundwater impacts on the site."**

- **Finally, Table 5-1 in this RAP document states that at Building 629 and on the IR-08 site, "there is a low risk of any contaminants migrating from this site to A-1 Clean Parcels."**

With respect to parcels 01-D1 and 01-D2, ALCO believes these parcels meet the criteria for transferability and request that DTSC include these sites as Area IA-A1 Clean Parcels, based on the environmental investigation, findings and analysis by

your consultants that these sites require no further remedial action.

DTSC Response: Parcels 01-D1 and 01-D2 were not included in this RAP for the reason that they are not clean parcels and that to have done so would have only served to delay the clean parcels from transfer. Not including 01-D1 and 01-D2 in this RAP does not slow any transfer of parcels 01-D1 and 01-D2. Further, DTSC does not consider any particular area at Mare Island as clean just because the Navy said so. We are obliged to reach such a conclusion with a rational basis in support. Further, the Navy is required to follow a regulatory process that cannot be disregarded and that, for parcels 01-D1 and 01-D2, requires additional effort beyond the submittal of the documents you have mentioned. The City of Vallejo as the designated Local Reuse Authority has long ago expressed their preference to have the regulatory agencies prioritize environmental work for all developed areas north of the Causeway. Our plans are to proceed with that as a priority to the extent possible.

b. **ALCO appreciates the opportunity to comment on the RAP and supports the work completed by DTSC to expedite the transfer of all Mare Island parcels that require no further remedial action. An amendment to the RAP to include Parcels 01-D1 and 01-D2 in your recommended clean sites for direct transfer will be consistent with the Negative Declaration under CEQA and the findings of your consultants. This DTSC determination will also assist the efforts of the City of Vallejo to support business entities with current operations in place at Mare Island.**

DTSC Response: See the response to the previous comment. The current IA-A1 Clean Parcels RAP will not be amended to include these additional parcels as this would serve to delay from transfer the parcels that are already included in this RAP. A separate RAP for these additional areas is anticipated in the near future and is dependant on the Navy's commitment to prioritize this work.

2. Public Comment Received by letter: From Mr. Jerry Dunaway, Navy BRAC Environmental Coordinator for Mare Island Naval Shipyard. Letter dated 6/12/2000 providing comments on the draft RAP.

a. **Section 4.2, 1st paragraph: DON is unaware of the existence of "large arms ranges" within the Investigation Area A1 Clean Parcels. Please correct this statement.**

DTSC Response: We agree. Section 4.2 has been rewritten for correction.

b. **Section 5.2, 1st paragraph, last sentence: Please clarify that the target butts for the Northern Marine Rifle Range are outside the Investigation Area A1 Clean Parcels.**

DTSC Response: We agree that the target butts for this range are outside IA-A1 Clean Parcels. Section 5.2 has been modified for clarification.

3. Public Comment Received by letter: From Anonymous. Letter received 5/30/2000 providing comments on the draft RAP.

a. Lead in asphalt, not in soil, will be left in place
-because the law permits this?
-will the citizens feel comfortable about this?
-will the asphalt structure remain as a parking lot?

DTSC Response: The comment relates to building 571 that was discussed at the public meeting. The USEPA data indicate elevated lead concentrations, from lead-based paint, at the base of the building. A visual inspection of this site conducted by DTSC and the Navy confirmed that asphalt pavement exists around most of this structure, with the elevated lead concentrations existing on the surface of the asphalt. The risk posed from this situation is less than the risk associated with the DTSC screening level of 400 ppm as an average concentration in soil. Therefore, we have concluded that this site does not warrant further investigation or remedial measures. The asphalt pavement was apparently placed around the building in response to the soil consolidation in the immediate area to restore the perimeter grade lost through settlement.

b. Is it not better to remove the contaminated asphalt pavement?

DTSC Response: The comment relates to building 571 that was discussed at the public meeting. For this site, the elevated lead concentrations are in the loose material on the surface of the asphalt as opposed to within or throughout the asphalt itself. This is viewed differently than elevated lead concentrations in soil from a risk perspective in that the volume of contaminated soil is greater and that the lead in soil would be more accessible.

c. What if some future occupant of the ground wants to demolish the building and convert the asphalt area to some other use? How will the dug-up asphalt be disposed of? Will there be some restriction? (Dump into the Bay?) Or would such broken-up asphalt be considered safe, so there is no worry?

DTSC Response: Building demolition must be conducted in a manner consistent with regulations governing hazardous materials and hazardous waste.

d. Area A-1 was "carved out". The area is deemed clean or unthreatened for the next

5-6 years. Which is the timeframe considered? Will the area remain clean after 5-6 years? Some contaminated spots are so close by. Will it be difficult for the contaminants to migrate to A-1 Area in 10 years? 20 years? The water table is likely high. Is it not likely for the contaminants to migrate below ground surface and reach the groundwater? Is the "conceptual model" only for modeling the scenario for the next 5-6 years?

DTSC Response: Migration of contaminants in groundwater was projected over a time interval of five years using conservative assumptions and parameters. A conservative buffer zone and the area within these projected migration distances were excluded, or carved out, of the IA-A1 Clean Parcels RAP. The five year timeframe was used as a conservative projection by which time the migration of contaminated groundwater can be expected to be under control if not fully remediated. The depth to groundwater in this area does indeed fluctuate considerably, and this was considered in the evaluation. An initial conceptual model is the basis for planning a site investigation and can easily be updated as new information is gathered and as perspectives change. Ultimately, a site characterization report must provide adequate data and analysis to support a clearly defined model.

4. Public Comment Received by letter: From Mr. Ken Kloc, ARC Ecology Environmental Analyst. Letter dated 6/7/2000 providing comments on the draft RAP.

a. ARC Ecology found the subject documents to be generally well written. However, we identified a number of areas within each document in which the DTSC's findings were not supported with sufficient discussion or analysis. In addition, we have discovered what we believe to be a significant problem with the agency's treatment of lead contaminated soil at both Areas E and A1. From our review of the subject documents, we are convinced that the DTSC needs to revise its policy on paint-based soil lead contamination at Mare Island. Our criticisms and opinions are described in further detail in the attached commentary.

Thank you for giving ARC Ecology the opportunity to provide this input. We hope that our comments will help your agency craft the best possible remedies for the subject parcels.

DTSC Response: We appreciate the commentor's concern regarding current DTSC policy. We also would like to think that we are interested in such comments in the interest of protecting human health and the environment and developing the most appropriate and certainly protective remedies. Reconsideration of the DTSC current policy with respect to lead in soil from lead-based paint, however, is beyond the scope of these responses to comments and the IA-A1 Clean Parcels RAP. The concern will be forwarded appropriately.

b. **Lead-based paint issues: The NFA RAP contains an misleading description of results from the U.S. EPA lead-based paint survey at five non-residential buildings in Investigation Area A1. For example, on page 19, the document states, "At areas sampled in IA-A1 Clean Parcels, the residual concentration of lead in soil was determined to be less than the residential screening level of 400 mg/kg." However, average concentrations of lead in soils, as reported in the EPA study, were greater than 400 ppm in three of the five sampled buildings.**

DTSC Response: The USEPA report written by Roy F. Weston under contract did report sample results for five buildings within Investigation Area A1. Three of the five buildings each had averages of data that were greater than 400 ppm of lead. The average concentration for building 571 was reported as 797ppm. After the USEPA and DTSC brought this to the attention of the Navy, the Navy responded that most of the area around the building is covered with essentially uncompacted asphalt and, therefore, the 797ppm value did not represent an average concentration in soil but rather in a limited volume of loose material on the surface of the asphalt. We inspected the site and found this to be correct. Thus, our conclusion based on our interpretation of the data and site conditions, and documented in a 7/23/99 DTSC letter to the Navy, was that the lead concentrations in soil and at this site does not represent a significant risk.

Two adjacent other structures, buildings 621 and 617, also had averages of data that were 419ppm and 445ppm of lead, respectively. All samples were taken within two feet of the building foundation; a considerable portion of the soil in the vicinity of both buildings was found to be paved. It is relevant to understand that the 400 ppm screening value is based on an average of a drip line and a mid-yard value. Given that a mid-yard value can reasonably be expected to be very low because of the paved portion, and that the drip line concentrations for the two buildings are limited, we concluded that the average concentrations of lead in soil for these two locations are below the 400 ppm screening level.

Thus, although the average values from samples taken at these three locations were mathematically above 400ppm, we concluded that the average concentrations of lead in soil at each of these locations are below the 400ppm screening value.

c. **Given that the average concentration of lead at three out of the five sampled buildings were in excess of 400 ppm, DTSC should provide a more detailed explanation of why it feels that No Further Action is appropriate in this instance. The explanation should specifically address Building 571, whose average lead concentration was 797 ppm, well above the screening level. Regarding Building 571, it is also important to note that the 95% upper confidence limit for the mean, as reported in the EPA study, was also greater than the industrial-use screening level of 1000 ppm.**

Based upon the DTSC's presentation during the public meeting, Arc Ecology

understands that Building 571 samples were mostly of dirt located on top of asphalt which surrounds most of the building. Apparently, the DTSC's reason for a "no further action" decision is that Building 571 will be demolished and that the asphalt, along with its associated soil, will be removed. We are concerned that this contaminated dirt could become a hazard to maintenance, and construction/demolition workers. Furthermore, upon demolition, the contaminated soil associated with the asphalt may need to be treated as a hazardous waste for disposal purposes. Will the DTSC's "no action" findings create a situation where contaminated soils are disposed in an improper manner?

DTSC Response: See also the response to the previous comment 4b. Our reason for "no further action" decision with respect to the lead issue is based on an assessment of the concentrations of lead in soil around structures in the area addressed in the RAP. We concluded that these concentrations are below the DTSC screening level of a 400ppm. A basic understanding of the reuse plans for any area may be relevant for assessing whether the proposed remedy is or is not consistent with the reuse plans.

In general, demolition debris can be and often is hazardous waste, in particular due to lead from a variety of building applications, and asbestos as well. Building demolition always must be conducted in a manner consistent with regulations governing hazardous materials and hazardous waste. Typically, building demolition is controlled at the local level through the issuance of permits that require, among other things, compliance with applicable regulation of hazardous materials and hazardous waste.

d. **UXO Issues: The NFA RAP states on page 24 that soil at the Shotgun (Skeet) Range was sampled for lead, copper, and zinc and that the levels were within screening values. However, no reference is provided for this data. On page 15, the NFA RAP sites a 1995 Preliminary Assessment and a 1997 UXO Site Investigation as sources of information regarding the Skeet Range. However, the 1997 UXO Site Investigation did not carry out any sampling at the Skeet Range, and the 1995 Preliminary Assessment for Ordinance Sites was limited to a visual inspection and a metal detector survey. Please provide the appropriate reference for soil data at the Skeet Range, as well as, the mean and 95% UCL values for the three metals analyzed in soils.**

DTSC Response: In preparing a response to this comment, we reviewed our files for information on the skeet range area. Although final reports do state that no samples were taken, laboratory data exist for several soil samples that were actually taken within the skeet range area. However, very few of these samples were obtained from a depth of what was believed to be the soil surface at the time the skeet range was in operation. Thus, we have now concluded that sufficient data do not exist to support the no-further-action determination for the skeet range site. Consequently, an area inclusive of the former skeet range has been removed from the Investigation Area A-1 Clean Parcels No-Further-Action RAP.

The following is a presentation of the questions posed at the May 25, 2000 public meeting and the responses to those questions

Q. Mr. Dennis English- I have a question. You mentioned earlier that you have a hesitance. Did you do a preliminary endangerment assessment?

A. Mr. Chip Gribble - Because of the way a lot of this work was done when the shipyard was going through closure, the shipyard at the time had roughly 3,000 employees. It was going down all the time. The Navy was trying to keep them busy and productive, and some of the ways in which they wanted to do that was to use them in the radiological surveys and the unexploded ordnance work and the PCB-program work and the underground storage program, and we thought that was a good way to go.

We agreed with that, that that was a considerable resource, that if we worked with the Navy nd their resources or the skills that that remaining workforce had, that we could benefit greatly from that. So what we did was we organized what you would ordinarily find as a PASI document, a Preliminary Assessment Site Inspection, or the state equivalent of a PEA document. Instead of having one nice, neatly packaged document with all those issues in it as a PEA or a PASI, we have several reports from each of these programs addressing the issues that were dealt with in that program.

If you take this collection of miscellaneous documents and you put them all together, you will have the equivalent of a PEA or PASI document, and in some cases the equivalent of an RI document depending on what levels of work was done to address the question at that particular location. For example, IR 22 was more of a PEA evaluation.

Mr. Dennis English - Well, I just believe that the PEA preliminary. . . . According to the state's preliminary endangerment process assessment, there's accountability to that study so that a person who has done the study is held accountable for any problems that may occur in the future. So it's just a suggestion ? If you go for the state's way of doing things, but I guess you already went ahead and did it a different way, which hopefully there still is accountability for those who did the surveys, which are severe if you don't do it properly.

Q. Mr. Chip Gribble - Can you expand on your point of accountability?

A. Mr. Dennis English - Accountability would be if studies were done improperly, or I believe the county EPA people know what I'm talking about, and also the Department of Toxic Substance Control. They have rigid guidelines on how to do these assessments, and if it was a consulting firm or even public officials or a staff doing the work, they have to be certified in certain areas, and they also have to stand by their work, and the work has to be evaluated. And if there are some problems found through certain discrepancies or whatever, there are criminal and civil penalties. So I'm just trying to find out if that was what you did, but --

C. Mr. Chip Gribble - That's a good point. By the way, I work for Department of Toxic Substance --
Mr. Dennis English- Oh, great.

Mr. Chip Gribble - I wish the Navy were giving this presentation. As far as accountability goes, some of those requirements, such as people doing radiological surveys or radiological work in the State of California or ? if I may speak for DHS ? I shouldn't speak for DHS, but my understanding is that Department of Health Services requires that those people or those firms be registered or licensed with Department of Health Services of the State of California, for example.

The Navy's radiological workers and their radiological team were not certified. They were not required to be certified because they were ? if I understand this correctly ? because they're federal employees on the federal property on a military site, and that registration or legal requirement didn't apply to Mare Island.

As I understand it, those people who used to work in that program, who have now moved on to civilian sector and are now private contractors working on other military sites, are now required to be certified with Department of Health Services, but the essence of that requirement and those types of requirements is really to help ensure that the people doing that work are qualified. And in this case, we felt that they were extremely well qualified.

I would say that also for the unexploded ordnance program. These people were specialists. Their professional career for the most part was in military service dealing with ordnance. I can't come close to that kind of qualification myself. In some areas, the PCB program in particular, and the UST program, many of the people who were working in those programs were Navy people or former Naval shipyard employees who had gone through retraining programs and had some ability to do that work, or shall we say people within their program had the ability to do that work as other people were learning on the job.

So to the extent that we've approved this work, we think that it was done in some cases excellently and other cases satisfactorily. I wouldn't say excellent for everything. I don't think you would say excellent about my work for everything either, but we are comfortable in our conclusion.

Q. Mr. Ken Kloc - With regard to the ambient levels of arsenic, I recognize that you can't dig up the whole island and that those ambient levels are probably going to have to stay there, but nonetheless, as far as I know, that ambient level of arsenic is above the normal risk criterion, and so I'm wondering is there some way that there could be at least some sort of notification to people who are going to be using the land in the future? I'm not sure if you can do that in the CERCLA process. Probably not.

Or maybe there's some other way of doing it. I would imagine maybe if there was some mechanism in the EIS/EIR process, perhaps in mitigation.

A. Mr. Chip Gribble - That's a good question. I don't have an answer for that. Mike?

A. Mr. Mike Wade - In general, arsenic, all over the state of California, is higher than the one-in-a-million risk level. For the Bay Area, I see numbers that are usually around 10. So maybe it's a little elevated over parts of the Bay Area, but there's parts down in Southern California where it's higher. So even though over that risk level, I don't think it's an unusual amount for some parts of California.

C. Mr. Chip Gribble - In a lot of these inorganic materials, there's a continuum or a range of concentrations where you can go from naturally occurring levels that are benign that are well within any risk numbers, and then there are other locations where basically they have monetary value as an ore body. And I think I'm out of my ability to speak on that as to how to handle those kind of situations where you have concentrations that are naturally occurring that represent significant risks and everything in between, from marginal risks to significant risks and how do we as a department handle or respond to that? And another question is, how do we as a society deal with that or respond to that? Steve?

C. Mr. Steve Dean - Yeah, Chip, I was going to point out that arsenic is the one heavy metal that has a very similar risk assessment anomaly that radium does, and that radium 226, the typical background level for radium exceeds the upper end of our risk range. So we're more or less we're obliged to clean up radium to indistinguishable from background because we can't go any lower, even though the risk would want you to if it were possible.

So arsenic has a similar problem in that just naturally occurring levels of the arsenic are very high on our risk range. So it's an artifact we kind of have to live with in North America, or on the planet itself, so it's a very difficult question to grapple with, but we've had to with radiation * radium. I don't know if that helped or not.

Q. Mr. Steve Dean - Confused you all the more?

A. Ms. Myrna Hayes - No.

Mr. Chip Gribble - I'll certainly explore the options, when I get back to the office, with other people in my agency. And I don't know if it's appropriate for us to pursue some type of notification or not, but I'll look into that. Any other questions?

Mr. Chip Gribble - Diana?

Q. Ms. Diana Krevsky - You said that it was okay for unrestricted use. Does that include residential?

A. Mr. Chip Gribble - Unrestricted use is residential.

C. Ms. Diana Krevsky - Okay.

C. Mr. Chip Gribble - Anything goes. We're saying we don't believe that any limitation on the property is not necessary. Okay, Paula?

Q. Ms. Paula Tygielski - My question's about the buildings with the lead around them, and the lead levels are -- in one case it's a matter of averaging it out. But those are unrestricted? Because in some of the other buildings, you put restrictions, like you shouldn't vegetable garden around the buildings.

Mr. Chip Gribble - I think you're referring to the CCC

Ms. Paula Tygielski - The CCC.

Mr. Chip Gribble - -- down by, I forget what building number that is. That's down the southern end of the island.

Mr. John Cerini - H-1.

A. Mr. Chip Gribble - Pardon me? Building H-1? The California Conservation Corps has leased the building down in the southern end of the island, and they haven't purchased it or they don't own the property. That's a lease arrangement. They're subleasing from the city, who leases from the Navy, and that lease agreement, we put in limitations to prohibit growing vegetables for the people that were living there. That's a residential-lease property.

That limitation in the lease terms does not necessarily represent a final determination on my agency's part as to whether or not we think that's suitable for unlimited use or unrestricted use or that we think there should be some limitation there. We're just saying, for the purposes of this lease, you're not allowed to grow any vegetables. We haven't made a determination that the lead concentrations in that particular location are unacceptable or acceptable either way for unlimited use.

Q. Ms. Paula Tygielski - Okay. Now, these buildings that are in A1, they won't need a similar type of thing?

A. Mr. Chip Gribble - No. And best as I can recall from the CCC lease time, that we were uncomfortable with our understanding of lead concentrations in that particular location, and rather than go to the effort to develop a more complete understanding of the lead exposures that are possible down there, that we just wanted to put in that prohibition against growing vegetables.

Q. Ms. Paula Tygielski - And as a quick question, is the problem getting lead into the food supply, or is the problem with the person working the soil coming in contact with the lead that way?

A. Mr. Chip Gribble - Gee, I think it's . . .

C. Ms. Paula Tygielski - Or both.

A. Mr. Chip Gribble - I think it's both, but Mike Wade, do you want to add to that?

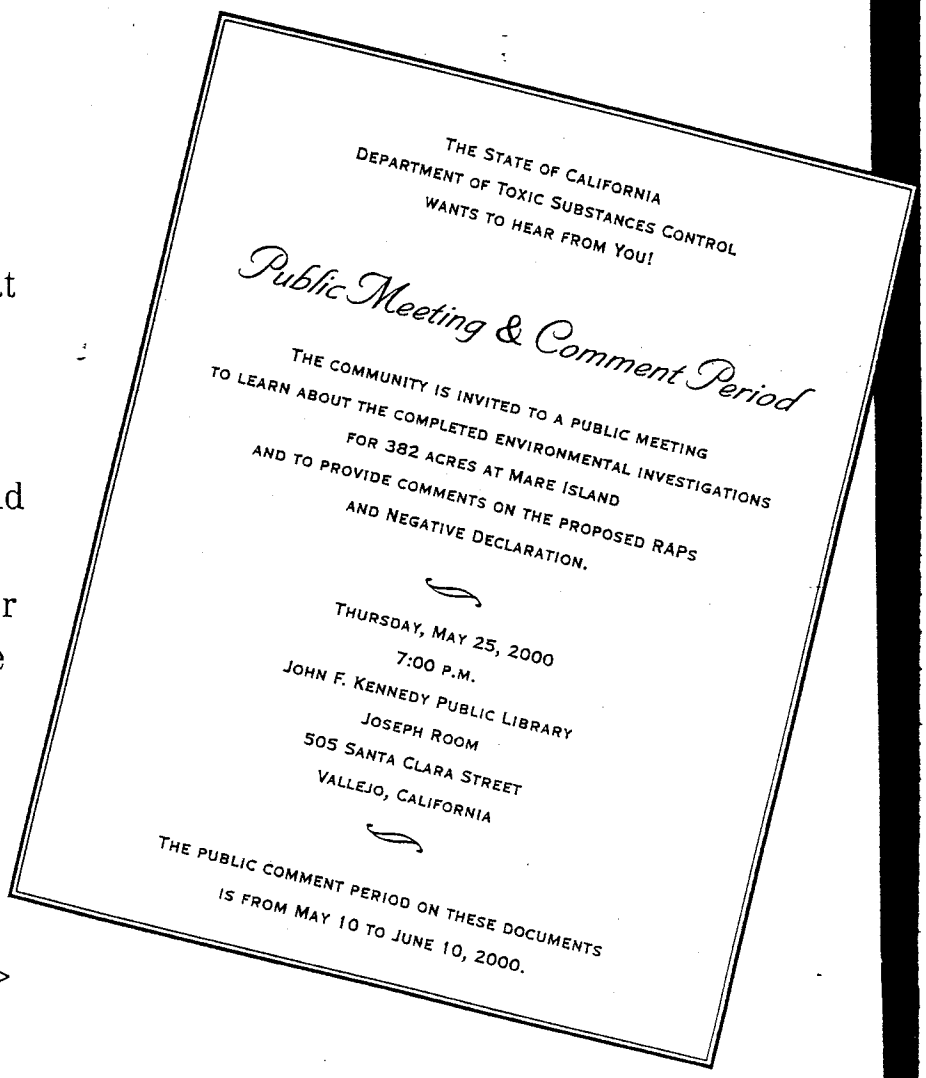
A. Mr. Mike Wade - Well, in our lead-exposure model, generally the garden adds insignificant amounts. So it's primarily the food, people consuming the produce, as opposed to gardening. Although, you know, that's going to add to your exposure as well, but it's primarily the food.

C. Ms. Paula Tygielski - Okay.

Environmental Investigations *Completed* for *382 Acres*

MAY, 2000

As part of the ongoing Installation Restoration Program (IR Program) at the former Mare Island Naval Shipyard, the U.S. Navy has completed an environmental investigation of 382 acres of land at the former Shipyard. The Department of Defense, in order to advance compliance with the Federal laws, established the IR Program to address hazardous waste contamination resulting from base operations at military installations.



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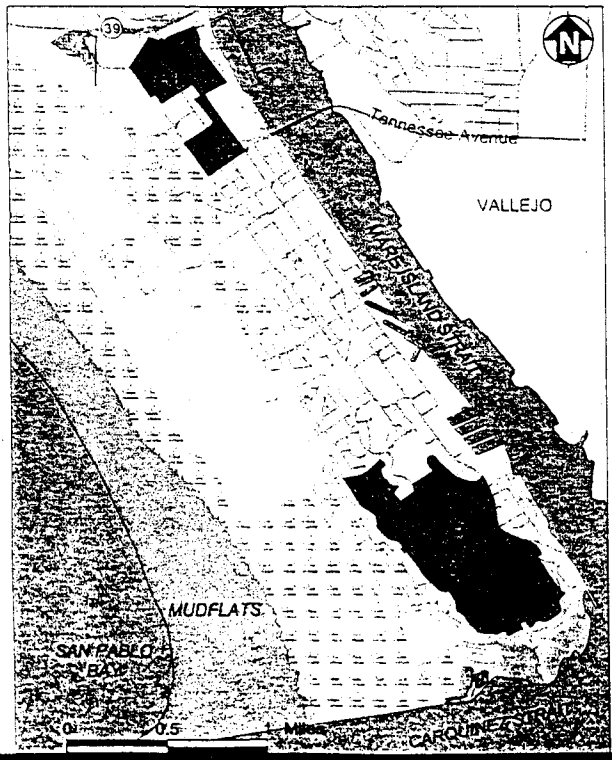
A thorough evaluation radiological contamination was conducted throughout Mare Island. In particular for IA-E and IA-A1 Clean Parcels, the surveys demonstrated that no radiological contamination exists in these areas.

The following is a summary of the investigations conducted at two Investigation Areas (IAs) at Mare Island Naval Shipyard. The investigations are summarized in two Remedial Action Plans (RAPs) prepared by the California Department of Toxic Substances Control (DTSC). Each RAP contains a description of the IAs suspected or known contaminants and the proposed remedial alternative for each area. The DTSC and the U.S. Environmental Protection Agency (USEPA) invites the community to comment on the investigations and the RAPs. The opportunities for public involvement and where to send comments are further described in this fact sheet.

Description of Land Investigated

The 382 acres of land investigated cover two land areas referred to as IA-E (285 acres) and IA-A1 Clean Parcels (97 acres). The following is a description of the historical and planned use of the property.



Investigation Area E

Historical Use: Golf course and ordnance storage
Planned Reuse: Golf Course (expanded from 9 to 18 holes) and regional park

Investigation Area A1 Clean Parcels

Historical Use: Industrial, ship assembly, construction and residential
Planned Reuse: Light industrial with some residential

Summary of Environmental Investigations

Both parcels were investigated for the following environmental concerns.

Unexploded Ordnance

As a result of past ordnance manufacturing, storage, and disposal practices, and operation of small arms ranges, all of Mare Island has been assessed for possible unexploded ordnance (UXO). In particular, both IA-E and IA-A1 Clean Parcels were investigated and surveyed for possible contamination. IA-E contains bunkers that were once used to store ordnance. Two small arms ranges were operated in the northern end of the island, part of which is within IA-A1 Clean Parcels. These areas were determined to be free of unexploded ordnance and related concerns.

PCBs (Polychlorinated biphenyls)

As part of a basewide effort, the Navy investigated these two IAs for transformer sites, electrical equipment storage areas, and other miscellaneous sites with a history suggestive of possible PCB contamination. One small transformer site in IA-E was found to have leaked PCB fluids and was remediated. Three small sites in IA-A1 Clean Parcels were found to have limited PCB contamination and were remediated. These remediated sites were

found to have a limited residual extent of contamination and at concentrations below the USEPA and DTSC site specific PCB screening level for unrestricted use. Therefore, it was determined that these sites do not pose a risk for unrestricted use.

Radiological Survey

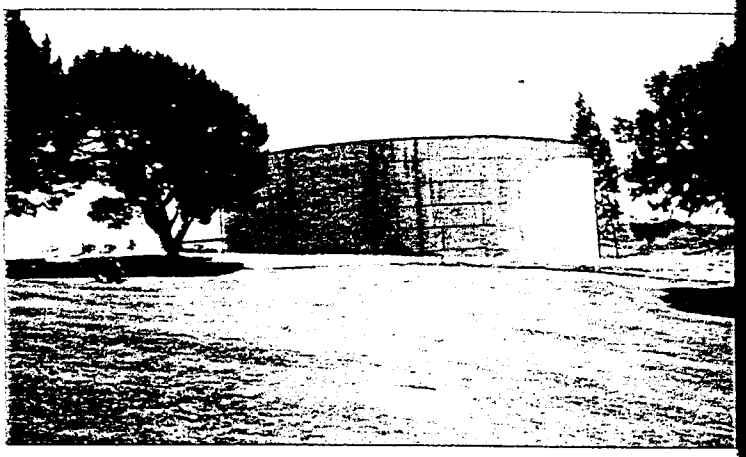
A thorough evaluation and survey for possible radiological contamination was conducted throughout Mare Island. In particular for IA-E and IA-A1 Clean Parcels, the surveys demonstrated that no radiological contamination exists in these areas. The surveys and reports were approved by regulatory agency oversight team of representatives from DTSC, USEPA, the California Regional Water Quality Control Board, and California Department of Health Services.

Underground Storage Tanks (UST)

Also as part of a basewide effort, the Navy reviewed all available information including shipyard records, past reports, and conducted basewide inspections to identify possible current and former UST sites. Within IA-E, five possible UST sites were identified. Of these five possible sites, only three were determined to have existed; two USTs were removed and the third was closed in-place as an old water cistern. These sites were determined to be low risk sites with minor contamination or were not contaminated as in the case of the water cistern. Within IA-A1 Clean Parcels, four possible UST sites were identified. Only two were determined to have existed; both of these USTs were removed. Subsequent investigation has determined that these sites have limited contamination from hydrocarbon only and also are low risk sites that do not warrant remediation.

Lead in Soil from Lead Based Paint

Mare Island has many structures that, because of past practices involving lead-based paint and maintenance of these structures, may have significant lead contamination in soil surrounding these structures. A representative number of structures with the greatest likelihood of having lead contamination in the surrounding soil in these IAs were investigated and sampled. Most structures were found to have lead concentrations in soil that were above background but below screening levels protective of public health for unrestricted reuse. However, two aboveground freshwater tanks on the golf course were identified as having significant lead contamination in the surrounding soil. Contaminated soil around these structures was removed. The remaining concentrations of lead in soil at these sites are above background concentrations; but are within levels protective of public health for unrestricted reuse. Therefore, further remediation is not required.



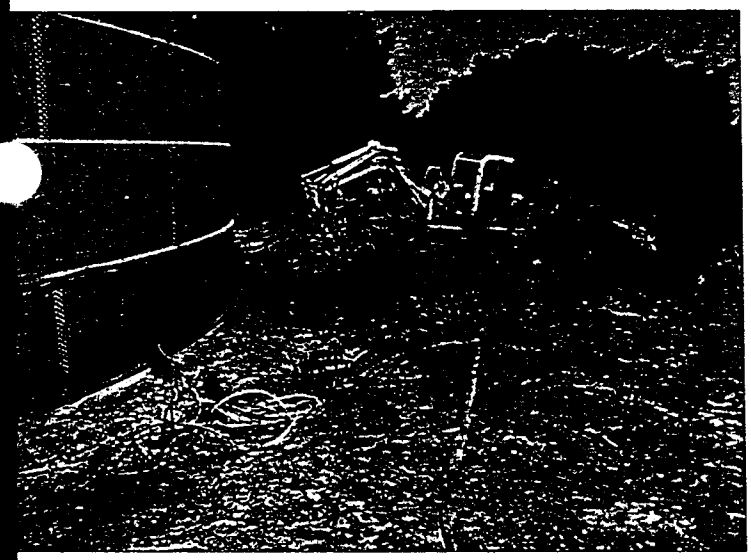
This photograph shows a view of the Mare Island Golf Course water tank 188A prior to assessment sampling.

At Mare Island, ships were blasted with sandblast abrasive to prepare the hulls for painting.

To differentiate naturally occurring metals from contamination at Mare Island, analyses were conducted to define background concentrations for Mare Island.

Assessment of Impacts from Nearby Contaminated Groundwater

Sources of contaminated groundwater and existing contamination outside of and in proximity to the IAs were assessed for potential to affect IA-E and IA-A1 Clean Parcels. IA-E is upgradient from contamination sources outside of this area. Sources of contamination do exist outside of IA-A1 Clean Parcels. However, groundwater monitoring data and modeling analyses of potential groundwater movement indicate that groundwater at IA-A1 Clean Parcels will not be affected by the adjacent contaminated groundwater. The boundary of IA-A1 Clean Parcels was defined to include a buffer distance from existing contaminated areas outside of this area.



This photograph shows an excavation of lead-affected soil at the Mare Island Golf Course water tank 188A.

Greensand

At Mare Island, ships were blasted with sandblast abrasive to prepare the hulls for painting. Most of the spent sandblast grit was disposed of at the Mare Island landfill site and near the sandblasting facility itself located in the southeastern part of Mare Island. A limited amount of the sandblast material was also randomly used as a backfill material in utility repair excavations at Mare Island. The predominant sandblast material used, commonly referred to as greensand, generally contains elevated levels of nickel, chromium, copper, zinc, lead, tributyl-tin, and PCBs. However, studies have demonstrated that the sandblast grit remaining as a backfill in utility corridors exists in small pockets in a limited number of localized areas, and as such, does not pose a risk to human health and the environment.

Ambient/Background Concentrations of Inorganic Metals in Soil

Several naturally occurring inorganic metals are also common industrial contaminants. To differentiate naturally occurring metals and naturally occurring concentrations of these metals from contamination at Mare Island specifically, analyses were conducted to define ambient and background concentrations for the original hill part of Mare Island and also for the lowlands largely created from historical sediment dikes and dredging. Arsenic concentrations in general were identified as being elevated throughout Mare Island but consistent with background concentrations, and thus, consistent with naturally occurring concentrations.

Golf Course and Pesticides

In IA-E, soil samples were taken for analyses from selected areas at the golf course most likely to contain chemical/pesticide residues from past Navy golf course operation. Elevated arsenic levels (from past pesticide applications) above background concentrations were identified and removed. Because other areas of the

DTSC has conducted an Initial Study for Area E and determined the draft RAP will not have an adverse impact on public health and the environment.

golf course are expected to have similar levels of elevated arsenic from past pesticide applications, and because the area will continue to be used as a golf course (including continued pesticide use), a covenant to restrict use of the golf course property has been proposed to prohibit residential development.

Conclusions

After an investigation of all potential environmental concerns, the DTSC and the EPA have proposed land use restrictions for the golf course area within IA-E and no further action for the remainder of IA-E as well as for IA-A1 Clean Parcels.

IA-A1 Clean Parcels is slated for transfer and redevelopment for light industrial and limited residential use.

IA-E is slated for transfer and continued use as a golf course and as a regional park. Because of historical use of pesticides and consequential arsenic contamination at the golf course, the land use restrictions will be implemented to ensure that future use of the golf course area will be limited to prohibit residential reuse.

Public Comment Period

Public comments on the RAPs for IA-A1 Clean Parcels and IA-E, and the Proposed Negative Declaration are being accepted from May 10, 2000 to June 10, 2000 and should be sent to: Department of Toxic Substances Control, attention Chip Gribble, Project Manager 700 Heinz Avenue, Suite 200, Berkeley, CA 94710-2721. All public comments will be carefully considered by DTSC before the RAPs are finalized.

Response to Public Comments

At the close of the comment period, DTSC will prepare a response to comments document. Each commentor will receive a copy of the response to comments and a copy will be available at the DTSC Berkeley office and placed in the information repository at the John F. Kennedy Library for public review.

California Environmental Quality Act (CEQA)

In compliance with CEQA, DTSC has conducted an Initial Study for Area E and determined the draft RAP will not have an adverse impact on public health and the environment and is proposing a Negative Declaration for this site. Public comments on the Negative Declaration may be submitted to DTSC's Berkeley office.

DTSC has also reviewed the proposed activities for Investigation Area A1 Clean Parcels and determined that this RAP is exempt from the requirements of CEQA under Title 14, CCR, Section 15061 (b) (3). The Notice of Exemption (NOE) will be filed which starts a statutory limitation to the time period for challenges to DTSC's CEQA determination for Investigation Area A1 Clean Parcels. A copy of the draft RAPs and the Negative Declaration for Investigation Area E are available for review in the information repository (JFK Library) and in DTSC's Berkeley office.

Where can the RAPs be reviewed?

The Remedial Action Plans (RAPs) are available at the information repository at the John F. Kennedy Library Reference Desk, 505 Santa Clara Avenue, Vallejo, CA 94590. Their number is (707) 553-5568. Community comments will be accepted until the close of business on June 10.

How You Can Get More Information About Environmental Cleanup

Attend the Public Meeting on May 25, 2000. As part of the monthly Restoration Advisory Board (RAB) meeting, the Navy, DTSC, and EPA will be presenting information and answering questions regarding the Investigation Area 1A Clean Parcels and Investigation Area E RAPs. All interested parties are invited to attend the meeting and provide verbal or written comments. See the box below for more information.

Restoration Advisory Board (RAB)

The RAB is a forum for representatives from the Navy, state and federal regulators, and members of the community to discuss environmental cleanup at Mare Island. RAB meetings are held at 7:00 p.m. on the last Thursday of each month in The Joseph Room at the John F. Kennedy Public Library, 505 Santa Clara Street, Vallejo.

Meetings are open to the public and community participation is encouraged.

For more information about the Restoration Advisory Board, or to be added to the mailing list, you can call any of the Navy or regulatory agency representatives listed below, or you may also call the RAB Community Co-Chair Myrna Hayes at (707) 557-9816.

The Navy and regulators are available to answer your questions and discuss cleanup issues.

Patricia McFadden
Navy Environmental Liaison
650/244-2520

Jerry Dunaway
Base Realignment and Closure
Environmental Coordinator
650/244-2520

Chip Gribble
DTSC Remedial Project Manager
510/540-3773

Bonnie Arthur
EPA Remedial Project Manager
415/744-2368

Michael Rochette
RWQCB Remedial Project Manager
510/622-2411

Land Transfer Schedule The transfer of IA-A1 Clean Parcels and IA-E is scheduled for June 2000 and includes a total of 382 acres.

Notice to Hearing Impaired: You can obtain additional information by using the California State Relay Service at 1-888-877-5378 (TDD). Ask them to contact Chip Gribble at (510) 540-3773 regarding the former Mare Island Naval Shipyard.

MARE ISLAND NAVAL SHIPYARD
PUBLIC COMMENT PERIOD MAY 10, 2000 TO JUNE 10, 2000

Environmental Investigations Completed for 382 Acres at Mare Island

As part of the ongoing Environmental Restoration Program at the former Mare Island Naval Shipyard, the U.S. Navy has completed an environmental investigation of Investigation Area A1 Clean Parcels and Investigation Area E. In response to the Navy's investigation, the California Department of Toxic Substances Control (DTSC) has prepared two draft Remedial Action Plans (RAPs) for these locations. The RAPs include a summary of the environmental investigations conducted within these two areas of the Investigation Areas and the conclusions and proposed remedial alternatives for these locations. The draft RAPs propose No-Further-Action for Investigation Area A1 and a land use covenant for Investigation Area E. The land use covenant proposes to prohibit residential development at the former Mare Island golf course property.

California Environmental Quality Act (CEQA)

In compliance with CEQA, DTSC has conducted an Initial Study for Area E and determined the draft RAP will not have an adverse impact on public health and the environment, and is proposing a Negative Declaration for this site.

DTSC has also reviewed the proposed activities for Investigation Area A1 Clean Parcels and determined that this RAP is exempt from the requirements of CEQA under Title 14, CCR, Section 15061 (b) (3). A Notice of Exemption (NOE) will be filed which starts a statutory limitation to the time period for challenges to DTSC's CEQA determination for Investigation Area A1 Clean Parcels. A copy of the draft RAPs and the Negative Declaration for Investigation Area E are available for review in the information repository (JFK Library) and in DTSC's Berkeley office listed below.

Public Meeting and Public Comment Period

The public is encouraged to review and comment on the draft RAPs and the Proposed Negative Declaration during the public comment period from May 10, 2000 to June 10, 2000. Comments should be sent to: Chip Gribble, Department of Toxic Substances Control, 700 Heinz Avenue, Suite 200, Berkeley, CA 94710-2721. Comments will also be accepted during the community meeting to be held:

7:00 p.m.
Thursday
May 25, 2000
John F. Kennedy Public Library
Joseph Room

505 Santa Clara Street
Vallejo, CA 94590

An information repository containing copies of project documents has been established at the John F. Kennedy Library (address above). Please contact the Reference Desk at 707/553-5568 to review the documents.

For Additional Information Contact the Following

For further information about this project, please contact the following:

Chip Gribble
DTSC Remedial Project Manager
510/540-3773

Bonnie Arthur
EPA Remedial Project Manager
415/744-2368

Michael Rochette
Regional Water Quality Control Board Remedial Project Manager
510/622-2411

Notice to Hearing Impaired
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